

pCRANFIELD UNIVERSITY

INGO FORSTENLECHNER

IMPACT OF KNOWLEDGE MANAGEMENT  
ON LAW FIRM PERFORMANCE -

AN INVESTIGATION OF CAUSALITY ACROSS CULTURES



SCHOOL OF INDUSTRIAL AND MANUFACTURING SCIENCE

PHD THESIS



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## Abstract

It is a management truism that you cannot manage what you cannot measure. To manage knowledge effectively organisations need to understand how to measure their knowledge management performance against organisational goals.

The case study organisation has developed a balanced scorecard, which is used to monitor key drivers for performance within the remit of the knowledge management function, thereby aiming to improve the delivery of value adding services.

The set of cause and effect relationships at the heart of the scorecard - referred to as the success map – is at the core of this research, which aims to investigate if the link between managing knowledge and financial performance really exists and – if it does – how it can be influenced.

By means of analytical methods including regression, correlation and semi-structured interviews the existence of this link is supported by evidence and the success map updated to reflect the relationships among key performance drivers that were positively identified as relevant. The outcome is a model for managing knowledge that can be applied to professional service firms or comparable organisations that are highly dependant on knowledge.

In relation to this model, cultural variations were investigated and found to significantly influence the relevant performance drivers in several regions and countries across the case study organisation. Ignoring these cultural variations was found to carry the risk to base action on deceitful insights.

In addition to this, the analysis of the survey also gave a clear indication of how to foster knowledge sharing among lawyers of different nationality and levels of seniority.

This thesis provides the empirical evidence for a link between knowledge management and organisational performance.



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I dedicate this thesis to my late grandfather Walter who would have been very proud of me now.



## Author Profile

Ingo studied information management at the *Fachhochschule für Informationsberufe* in Eisenstadt with the second year as an exchange student at Queen Margaret University College in Edinburgh. Throughout his undergraduate studies, Ingo worked as a trainer from computer literacy to web authoring tools.



In 2001 he started working in the Vienna and subsequently in the Frankfurt office of an international law firm, initially to rescope the organisation's intranet. In autumn 2002, Ingo was seconded to the London office to work with the central knowledge management (KM) team, on projects such as user analysis, communication and a steadily growing amount of performance management. Ingo returned to the Vienna office in early 2005, focussing on performance management, internal blogging, research and – on a part-time basis – lecturing at his undergrad *Fachhochschule* and other institutions. Aside from a blog within the firm he works for, he also runs his personal blog at <http://forstenlechner.info>

His MSc thesis focused on the return on Investment of KM and concluded with the recommendation to develop a Balanced Scorecard for this purpose. This idea was then put into practice and is the starting point of this research. This dissertation aims to provide insight into the validity, the cultural aspects and the impact of measuring knowledge in the professional services environment.



## **Publications from this research (as of November 2005)**

Forstenlechner, I. (2005). The role of national culture when measuring KM, Knowledge Management Review July/August 2005 Volume 8 Issue 3, p. 10

Forstenlechner, I., Lettice, F., Bourne, M. (2005) Determining cause and effect in a balanced scorecard measuring and managing knowledge. 3rd International Conference on Manufacturing Research (ICMR 2005) 6-8 September 2005, Cranfield University

Forstenlechner, I. (2005) Wozu wissen teilen? Motivation zur Wissensteilung unter Anwälten, Wissensmanagement Magazin, December 2005, Volume 7 Issue 6, p. 37 - 40



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# Abbreviations and Formula

BSC	Balanced Scorecard
IC	Intellectual Capital
IDI	Individualism / Collectivism Index
IKM	Information and knowledge management
KM	Knowledge management
KML	Knowledge management lawyer (aka PSL)
KSC	Knowledge Scorecard
MAS	Masculinity/ Femininity Index
PDI	Power Distance Index
PM	Performance management/measurement
PMS	Performance measurement system(s)
PSF	Professional Service Firm
PSL	Professional support lawyer (aka KML)
RQ	Research question
UAI	Uncertainty Avoidance Index



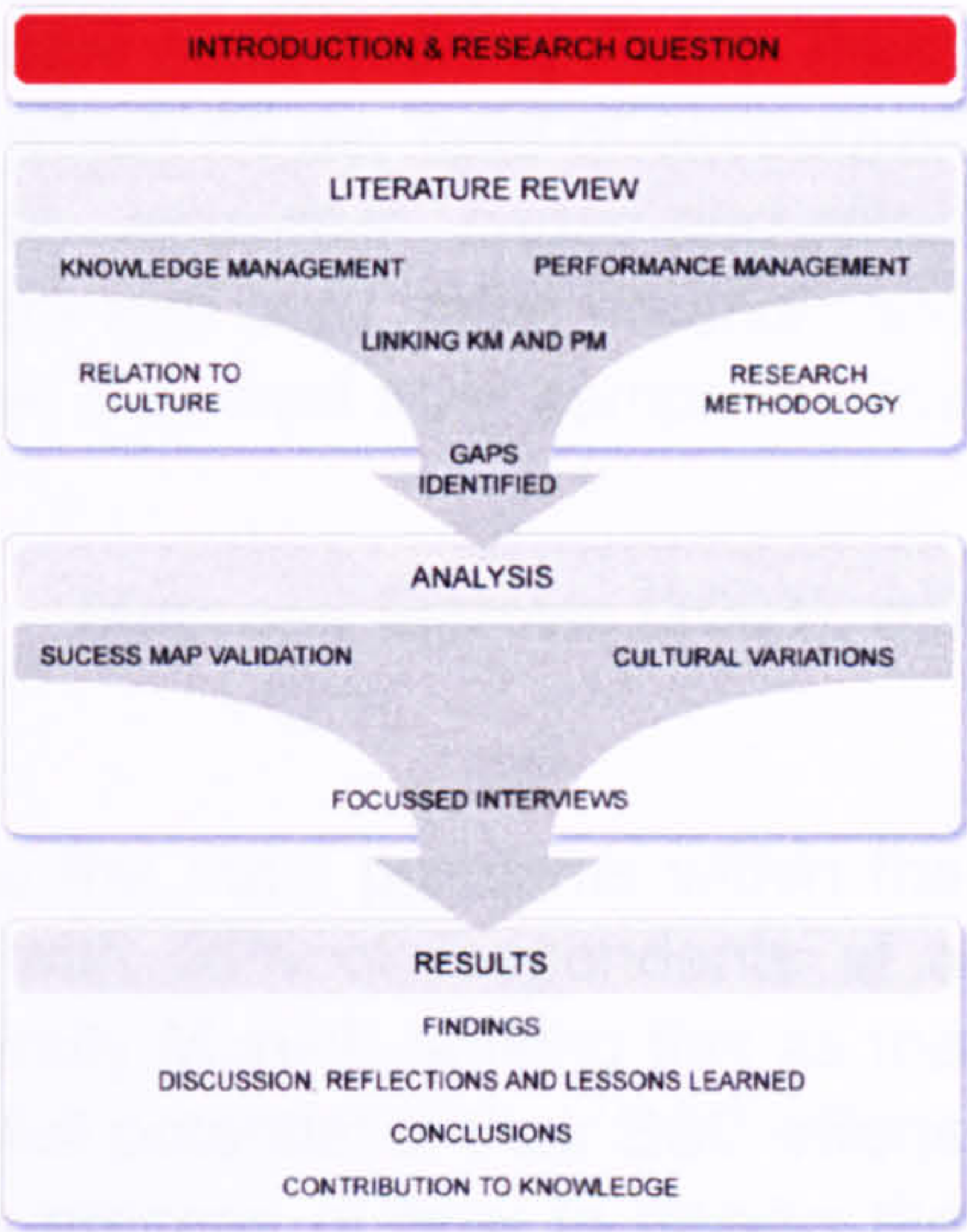
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Knowledge is not what is memorised.  
Knowledge is what benefits.

Imam Shafi (767 – 820)



# 1 Introduction



... in a knowledge intensive industry like law, knowledge management is simply a critical component and an overhead cost of doing business (...) if you are in a competitive market, knowledge management is like word processing or e-mail – you would be foolish to try to do business without it...

Kay, S. (2003)

## 1.1 Introduction

This chapter introduces the reader to the particularities of this research and defines the environment in which the research takes place, thereby leading to the research question.

There are two quotes which set the context for this research, the first is by Chatzkel (1999, p. 6): “The only product sold in law is intellectual capital.” and the second one is that “Experience has taught everything that cannot be measured does not get any attention in everyday business life.” (North, 1999, p. 124).

As intellectual capital is the only product sold in law and everything that cannot be measured does not get any attention in business life, there is a need to measure this only product when aiming to effectively manage knowledge. According to Horvath (1998), knowledge management or the creation of intellectual capital can be controlled and stimulated using the balanced scorecard. This view is also supported by Deking (1999) as well as Arveson (1999). However, there are certain problems in the deployment of balanced scorecards in general, as well as specific to knowledge management. Rucci et al (1998) refer to the balanced scorecard as a set of untested assumptions and recount how they achieved a turnaround at Sears (see chapter 2.3.5 for details on this study) using a set of indicators and relationships going beyond the



traditional scorecard. The topic of assumed causal links is also addressed by a report by a major consulting firm:

*"It has been said that some of the relationships between the four perspectives are more logical than causal. PricewaterhouseCoopers, in the recent book Building Public Trust, has disclosed the findings of an unpublished survey in which 69 per cent of executives reported that they had attempted to demonstrate empirical cause-and-effect relationship between different categories of value drivers and both value creation and future financial results. Less than one-third of these felt they had truly completed the task; this suggests its difficulty.*

Marr and Starovic (2003), p.9

Neglected cause-effect-chains and missing metrics are the main problems within the development process of balanced scorecards (BSC) with 56% of respondents of a survey conducted by Siemens and the Technical University Munich ranking this as the major issue hindering organisations from achieving the full potential of their BSC efforts (Deking, 2001). Bourne and Neely (2002) refer to the process of how to design the performance measures as the "missing link in scorecard deployment" and urge managers to look beyond measures that could potentially cause undesired behaviour to fulfil single targets rather than looking at the full picture using success maps.

*"PM systems have been commonly accepted as a manner of monitoring business performances and cover most of the domains of management, but there is a gap in linking the contribution of KM activities and the business objectives."*

Del-Rey-Chamorro et al. (2002), p. 48

Both disciplines, Knowledge Management (KM) as well as Performance Management (PM) have not yet evolved to a stage where it is possible to follow set procedures that allow organisations to create meaningful performance measures for managing intellectual capital. Roy et al (2000) mention that little research has been done to measure the impact of KM, even though there is a strong need for doing so.

## 1.2 Research questions

Knowledge Management within the context of this case study organisation is a large support function in terms of staffing and budget, but there are few meaningful measures to determine whether the investment and effort are worth it. This is not specific to this particular organisation, but a central theme in Knowledge Management (KM). A key question is therefore whether investment in KM drives improved business performance.

This question was refined over time as the literature review helped to narrow the focus of the research and identify relevant issues. The final research questions that drove the empirical work in this thesis were:



Within the context of the knowledge management function of an international professional services firm, the research questions are:

1. Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?
2. Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?

This research takes place in an environment where managing knowledge is recognised as the key to long-term success.

### **1.3 Contribution to knowledge**

There has been little empirical support for the role of knowledge management in firms (Darroch, 2005) and the relationship between managing knowledge and organisational performance.

This research aims to provide empirical evidence for the role of KM in law firms, by investigating in depth how one case study company measures the performance of its KM activities and the relationship to performance through the use of a Balanced Scorecard.

In particular, the focus is on testing and finding evidence to confirm or disconfirm cause and effect relations within the success map used as a basis for the scorecard. In addition, this research will investigate the impact of different cultures on measures used in the scorecard, these different cultures being found in the different practices, offices and countries in which the organisation operates.

This research will therefore contribute to and synthesise knowledge in three key areas:

- The contribution of knowledge management to organisational performance
- The theory and practice of applying performance management principles to KM
- The impact of culture on both, PM and KM.



1.4 Thesis navigator

This thesis is structured into 9 main chapters.

#	Chapter title	Description
1	Introduction	This chapter introduces the reader to the particularities of this research and defines the environment in which the research takes place, thereby leading to the research question.
2	Literature Review	This chapter serves the purpose of reviewing the literature on the three main areas, knowledge management and performance management as well as the link to culture.
3	Research Methodology	This chapter discusses the research methodology applied and presents the issues specific to the environment this research was conducted in.
4	Success Map Analysis	In this chapter the author describes the case study organisation and then conducts the analysis of cause and effect relationships and investigates the impact of knowledge management on organisational performance.
5	Cultural Variations Analysis	This chapter investigates the variations of key performance drivers identified in chapter 4 and establishes patterns valid across different cultures within the case study organisation.
6	Focused Interviews	This chapter focuses on the author's use of interviews to play back the findings of chapter 4 and 5 to the organisation itself as well as external validators.
7	Consolidated Findings	This chapter provides a general discussion and reflection on the research topic by relating all findings from previous chapters with each other and back to literature.
8	Discussion, Reflections and Lessons Learned	This chapter presents a high level perspective on the results and their meaning for the research areas as well as lessons learned from the project under research and from this thesis.
9	Conclusions	This chapter concludes through re-comparing the actual research outcome with the objectives and research question set at the beginning of the research, explaining the contribution to knowledge and outlining potentials for further research. The chapter shows that the research objectives have been met and that a solution for the problem has been delivered.

The thesis navigator as displayed in Figure 1 on the following page is to guide the reader through the thesis:



2 Literature Review

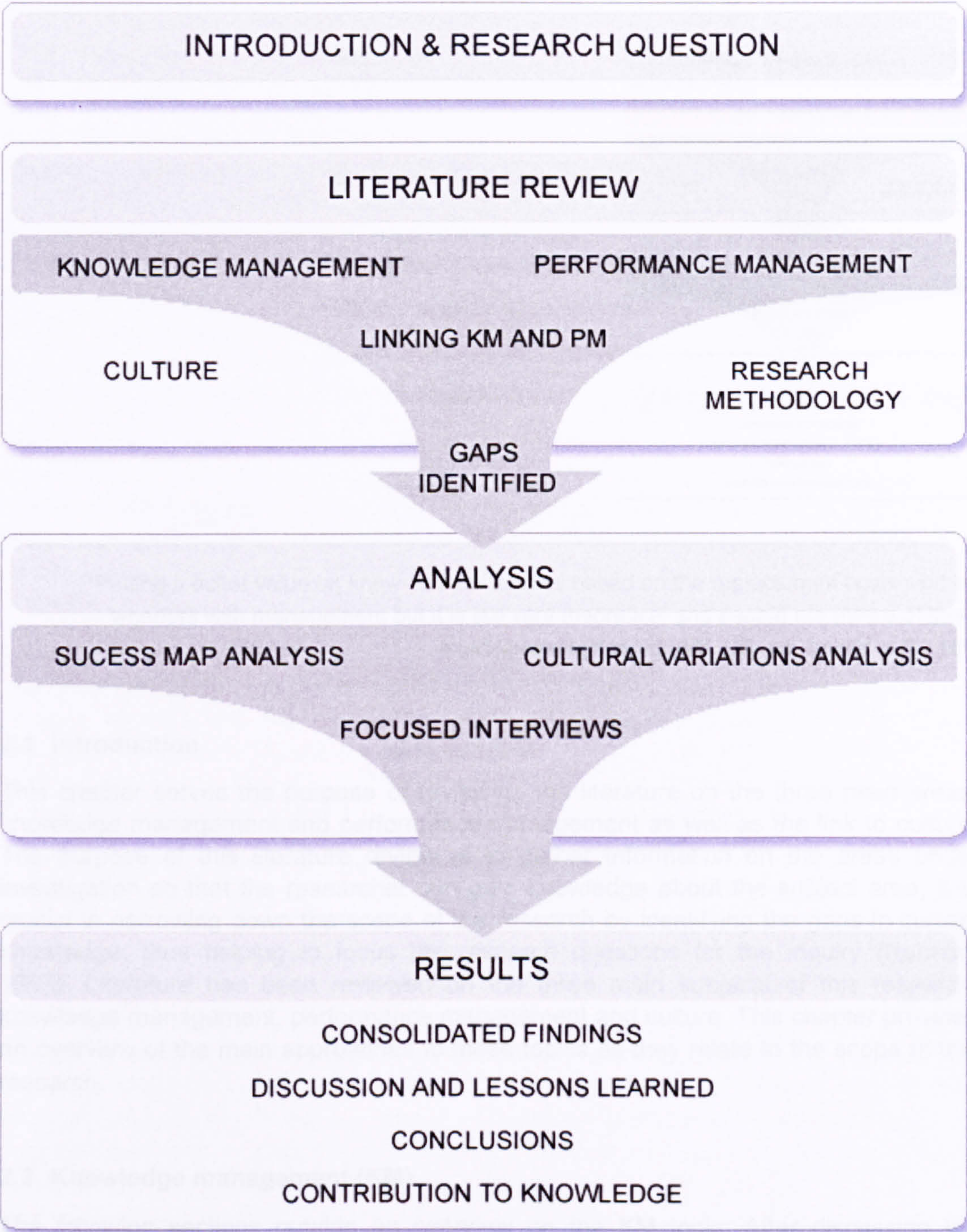
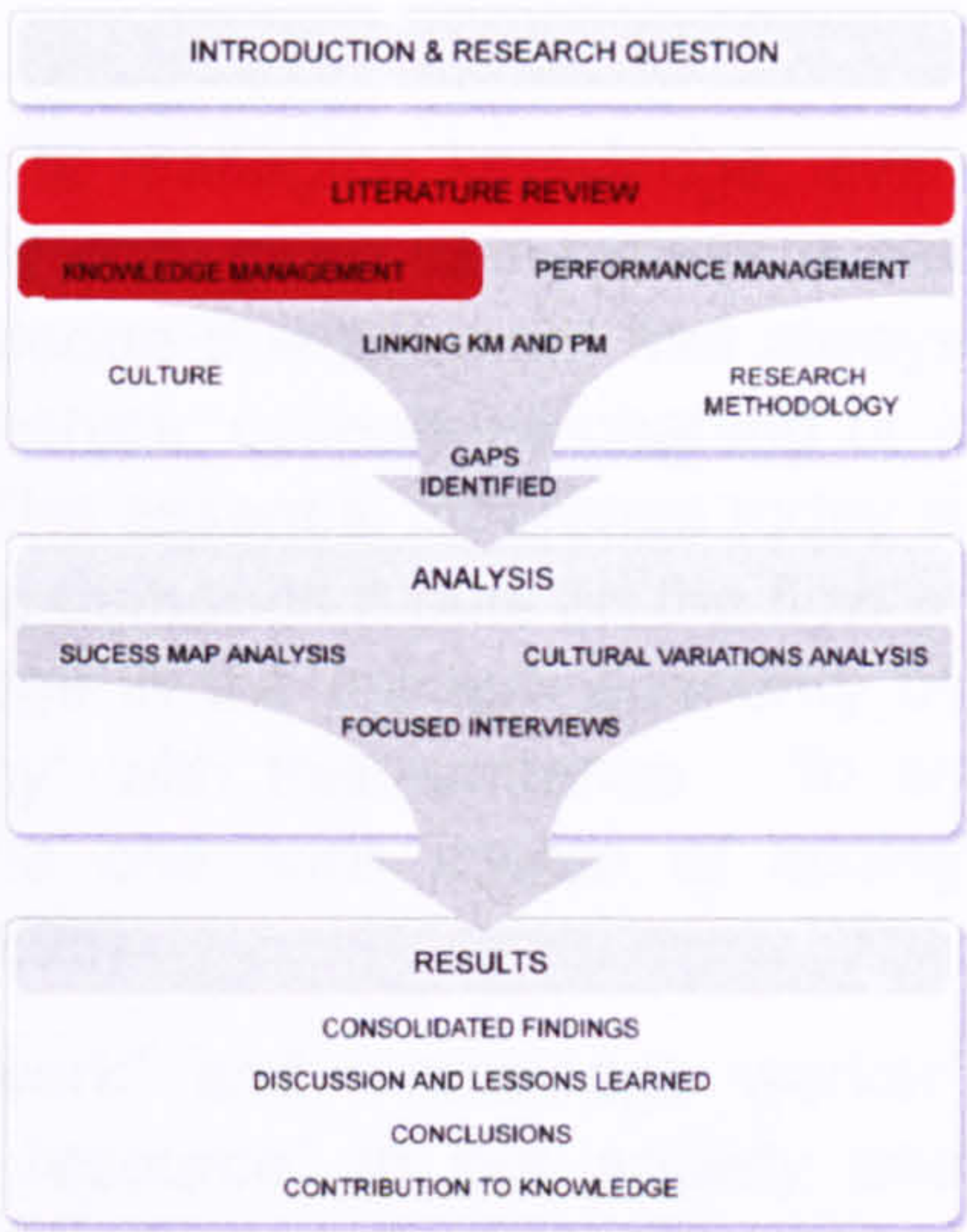


Figure 1: Thesis navigator



## 2 Literature Review



“Putting a dollar value on know-how collections based on the replacement costs worked wonders with management but it is still very theoretical and people are aware of this.”  
*Interviewee J (Head of KM, US law, based in the UK)*

### 2.1 Introduction

This chapter serves the purpose of reviewing the literature on the three main areas, knowledge management and performance management as well as the link to culture. The purpose of this literature review is to gather information on the areas under investigation so that the researcher can gain knowledge about the subject area. It is crucial in narrowing down the scope of the research by identifying the gaps in current knowledge, thus helping to focus the research questions for the inquiry (Robson, 1993). Literature has been reviewed on the three main subjects of this research: knowledge management, performance management and culture. This chapter provides an overview of the main approaches to these topics as they relate to the scope of this research.

### 2.2 Knowledge management (KM)

The following sections provide an overview on the KM topic: After discussing the context of KM, the definition of knowledge, KM in service led firms and subsequently several perspectives on KM, the emphasis is put on the accounting and measurement approaches taken so far. As KM in this research is about the operationalisation of knowledge to produce business benefits in the professional service environment, the literature review on KM is looking at the aspects relevant to operationalisation,



definitions of knowledge and intellectual capital as well as the specifics of KM in professional service firms, especially the law firm environment.

### 2.2.1 The context of knowledge

There is nothing essentially new in the basic concept of managing knowledge, even though as a new discipline it has emerged only recently and, given its newness is still developing its theoretical home (Darroch, 2005). Knowledge management has always been conducted in one way or another, e.g. apprenticeships, colleagues chatting or a parent handing over her/his business to the offspring. The essential difference today is the pace of the environment we live and work in and the demands it puts on the flow of knowledge. Nonaka emphasises the value of knowledge in the modern economy by starting his article "The Knowledge-Creating Company" with this sentence: *"In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge."* (Nonaka, 1991, p.96)

Peter Drucker, who coined the terms "knowledge work" and "knowledge worker" around 1960, believes that knowledge is the "key resource" in our society and consequently calls it a "knowledge society". Drucker sees the application of technical knowledge as a crucial element of the industrial revolution. Applying "knowledge to knowledge" according to Drucker (1993) marks the post capitalist society.

It may not be as radical a move as Drucker states, but some kind of knowledge is necessary for everything that is produced and the environment has certainly changed. The example of the pharmaceutical company applying knowledge still results in a tangible product, the pill, the medicine or similar but the high level of specialist knowledge necessary to produce these products makes this knowledge essential in the production process and what is even more important, transferable between any points in the world in seconds (once it is available as documented know-how).

A term that benefits from clarification is the term knowledge work, for which there are several approaches to define what knowledge work constitutes. Drucker (1993) makes a simple distinction between muscle work and brain work (thinking and doing), which is indirectly adopted by other authors but also criticised for being too elitist (Choi and Varney, 1995 and Daigle-Leblanc, 2001). It does not necessarily reflect today's environment where call centre workers (doing no manual work but theoretically fitting in the traditional view of white collar knowledge workers) can be seen as the unskilled labourers of our times (Forstenlechner, 2002). This definition is therefore not reflective of organisational needs and practices as Choi and Varney (1995) argue that the blue-collar worker who is required to make decisions in an organization could also be considered a knowledge worker.

Another perspective on knowledge work is to look at it as an individual characteristic rather than as an occupational characteristic, as Nonaka (1991) does for example by attributing creativity and innovation to knowledge workers. This adds another perspective as in this approach the focus is on what employees actually do in their day-to-day activities, for example work that entails high levels of cognitive activity (Helton, 1988) or individuals who work with information to make decisions (Fox, 1990).



This sums up various definitions of knowledge work, but it needs critical reflection as to whether these definitions are still valid and reflective of reality in a quickly changing environment.

Interestingly terms around knowledge work and especially the knowledge economy have recently also started to emerge in relation to governmental strategy:

*"Britain's economic destiny depends upon establishing British leadership in skills, science and the knowledge economy."*

*"Our aim must be that Britain becomes the world's leading location for research-based, science-based and knowledge-based industries."*

*Gordon Brown in his 2005 budget speech (Financial Times, 2005)*

To answer the question as to what the purpose of managing knowledge is, one needs to look beyond management truisms (a critique elaborated by Daigle-Leblanc, 2001), popular wisdom and politician's speeches and first look for the circumstances that have changed our environment in this direction, where knowledge becomes increasingly important. Vastly greater amounts of information technology, such as the internet enable improved access to information and knowledge and increasing collaboration between firms means that boundaries are increasingly blurred (Marr and Spender, 2004).

Lyman and Varian (2003) state that never before has information doubled as quickly as today. It is difficult to pin this down to a certain rate of growth depending on what is considered information or knowledge but whether it doubles or triples every four or five years is irrelevant. What matters is that information as well as knowledge is growing at an unprecedented rate. But as well as information growing at an unprecedented rate, the half life of knowledge decreases at the same time (Lyman and Varian, 2003).

### 2.2.2 Definition of knowledge

Knowledge in the context of this research is the means that allows lawyers to do their work more efficiently. While much of what lawyers need to be good lawyers is in their heads, the borders between tacit and explicit knowledge are blurred and what was not possible to capture and turn into explicit knowledge can now at least be supported by technology as well as working practice changes.

*"In order to create value in intellectual capital, we must understand how knowledge is formed and how people and organizations learn to use knowledge wisely."*

Saint-Onge, H. (1996, p. 11)



There are several types of knowledge relevant to an organisation. Nonaka and Takeuchi (1995) suggest separating the concepts of data, information, tacit knowledge and explicit knowledge. If this is then made relevant to professional service firms (PSFs), the concepts can be distinguished as follows (based on Hunter et al, 2002):

**Data** is factual, raw material and therefore without information attached.

**Information** is refined into a structural form, e.g. client databases.

**Explicit** – or codified or articulated – **knowledge** relates to “knowing about” and can be written and easily transferred. In a PSF, this category of knowledge may include manuals, specialised databases or collections of case law or may even be in the form of standardised techniques of investigation or templates for legal documents. A key attribute of explicit knowledge is the possibility to store it as Connell et al. (2003), p. 141 reflect: *“There are many taxonomies of knowledge. A commonly drawn distinction is that between explicit and tacit knowledge. Explicit knowledge consists essentially of concepts, information and insights that are specifiable, and that can be formalised in rules and procedures. Explicit knowledge is 'knowing about', and few disagree that it can be stored and shared using manuals and databases.”*

**Tacit knowledge** relates to “knowing how” or “understanding” and cannot be directly transferred between individuals; it is transferred through application, practice and social interaction. Such transfer takes place through junior lawyers working their way up to senior partners, building up the necessary social capital in the context of client relationships and their own personal networks. Polanyi (1958) defined tacit knowledge as the kind of knowledge which we routinely use and take for granted, such as the ability to recognise the face of a friend. This knowledge cannot be taught directly, but it can nevertheless be acquired by providing people with the opportunity to learn it. One such opportunity is the exposure of people to examples. Saint-Onge (1996) sees an organisation’s tacit knowledge embedded in the culture, providing the entry points through which information is transmitted and processed into knowledge. Connell et al. (2003) add another perspective on this:

*“Tacit (or implicit) knowledge, on the other hand, involves less specifiable insights and skills 'embedded' in individuals or in organisational contexts. It is 'knowing how', and it is associated with experience. The storing and sharing of tacit knowledge is far less straightforward and more controversial. Understanding and transferring tacit knowledge requires the direct participation of both the transferer and the recipient of knowledge, and a key problem relates to (...) 'stickiness' (...), where the context of the knowledge makes its isolation and transfer problematic.”*

Connell et al. (2003), p. 141

Another view adding to the classical definition of tacit and explicit knowledge comes from Iles et al (2004) who introduce the distinction between “primary knowledge” and “secondary knowledge”, with primary knowledge being defined as created first hand through experience and being acquired as a direct cognitive and perceptive process for the individual. This primary knowledge can become explicit when an individual



intellectualises over and reflects on that knowledge. Secondary knowledge is knowledge transferred from one individual to another and is normally explicit knowledge. Iles et al. (2004) further expand on this subject by stating that the acquisition process of secondary knowledge is indirectly being filtered through two worldviews (source and receiver) and therefore might be subject to hidden meanings.

A good example for this are know-who facilities that allow a user to find experts in the field they require expertise in. This does not directly pass on the knowledge needed but facilitates the knowledge exchange by bringing the right people together and thereby enabling the knowledge flow by allowing people to learn from each other's experience.

As explained above, tacit knowledge is the most difficult among the types of knowledge to transfer between people, but also the most valuable and rewarding where transfer of such knowledge is successful.

Connell et al. (2003) have identified six reasons, why tacit knowledge remains tacit:

Reason (Connell et al. (2003))	Possible remedies (by the author)
Inefficiency: It is a question of cost and return on investment to actually take the effort and codify relevant knowledge.	Some organisations of a certain size and economical power are able to make such investments and invest in a higher degree of knowledge codification than others.
Technology: even though great advances have been made in technology, the problems of speed of processing as well as the identification of the essential knowledge remains.	Essentially, this is again a question of investment, in this case in the processes where manual interaction is required. Technology can never fully capture the essence of knowledge.
Motivation: Social concerns will inhibit knowledge transfer.	This might be solved by altering working practices and/or incentives to share knowledge. Incentives are often suggested as a remedy but in this research no results support this approach.
Language: This is about the extent to which individuals are able to draw upon some types of knowledge, because of communication difficulties imposed, e.g. by distance (both geographic and temporal) or technology.	There is no obvious way to overcome this issue as especially in the global working environment organisations operate in today, these barriers will always persist.
Internalising and externalising knowledge: Unless people share the same or similar experience in a situation where knowledge needs to be applied, important facts.	The richer the support of the learning process is the better are the chances of overcoming these issues.

Table 1: Reasons for knowledge remaining tacit and possible remedies



### 2.2.2.1 The operational and strategic perspective of knowledge

There are multiple relevant views on knowledge management, with authors disagreeing on the subject and trying to establish themselves with a certain niche, mostly with large overlaps. Roth (2001) described relevant perspectives based mainly on Menon et al. (1998) as well as additional literature. Organisations adapted the concept of knowledge management (KM) to improve their processes aiming to create, share, and use knowledge. KM can be defined as the means to simplify and improve the process of sharing, distributing, creating, capturing, and understanding knowledge in the company. KM is description, organisation, sharing, and development of knowledge in the firm and between firms. KM is managing knowledge-intensive activities in the company and between companies.

KM is a discipline focused on systematic and innovative methods, practices, and tools for managing the generation, acquisition, exchange, protection, distribution, and utilisation of knowledge, intellectual capital, and intangible assets (Guthrie et al, 2003). Schulz and Klugmann (2005a, p. 4) define KM as a *“continuous process of systematically collecting, analysing, organising and distributing know-how relevant to”* (in the case of their research as well as this) the legal practice. Further aspects of the operationalisation of knowledge are provided by Menon et al. (1998) who assign tools, methods and practices for implementing and analysing processes of KM to this area, such as the development of knowledge (identification and acquisition), sharing knowledge, (re)using knowledge and evaluating it. These stages are supposed to form an iterative and cyclical process. Further models of operational KM are for example the knowledge market concept of North (1999) and the KM cycle approach of Probst et al. (1997) which have been extended and enriched by Liebowitz (2000) to suggest the following process:

- Transform information into knowledge.
- Identify and verify knowledge.
- Capture and secure knowledge.
- Organize knowledge.
- Retrieve and apply knowledge.
- Combine knowledge.
- Create knowledge.
- Learn knowledge.
- Distribute/sell knowledge.

The process oriented view is helpful in making knowledge management more tangible and aims at allowing the creation of process oriented solutions. After defining the context of knowledge, the view towards operational aspects is the first priority to



approach the topic in more detail. Guthrie et al. (2003) propose why organisations need to realise these operational aspects:

*“Firms are facing new challenges posed by the information society. This is likely to pose new demands on management also. The term “knowledge-based economy” has become universal and it is generally accepted that the source of value creation increasingly is to be found in the creation and manipulation of information, knowledge and ideas.”*

Guthrie et al. (2003), p. 429

The main reasons why businesses invest in KM are either to gain or to negate competitive advantage. KM can also simply be the strategy to survive in such a fast moving environment. Knowledge management means different things to different people and organisations. However almost all of them share some basic ideas about it:

- According to Davenport and Probst (2001) the essence of KM is synergy. When sharing knowledge, the initial value of the knowledge shared increases to a possibly multiple value.
- Nonaka (1994) defines KM as the method to harvest and share intellectual assets for breakthrough results in enterprise productivity and innovation. Nonaka (1994) refers to KM as a process that involves creating, harvesting, assimilating and leveraging knowledge to produce a smarter and more competitive organisation.

The concept addressing strategic KM is based on the assumption of KM creating sustainable competitive advantage (Nonaka, 1994). An example of strategic KM thinking is the knowledge-based theory of the firm and the awareness of knowledge as the fourth production factor. Manville and Foote (1996) propose five principles specific and relevant to strategic KM:

- Strategic KM must start with corporate strategy; i.e. the fundamental purpose of the company needs to be defined in advance.
- KM strategy must at least in part link to traditional, financial measures to demonstrate its positive impact on performance.
- The purpose of KM is not mainly managing knowledge but nurturing people with skills, expertise and insight.
- Technology is not as important as social aspects of networked people.
- KM operations need to be linked to genuine business goals.

Therefore an overall meaningful KM framework can only exist if all activities are aligned with the company’s strategy.



### 2.2.3 Knowledge management as the management of intellectual capital (IC)

After discussing the basic definitions of knowledge, the term intellectual capital needs to be clarified as the two terms often appear together and are used in very different contexts with different meanings attached to them.

The author subscribes to the view that KM might as well be called intellectual capital management as it does exactly that: It manages intellectual capital, which as explained in more detail later in this chapter has multiple definitions. Shaikh (2004) explains why intellectual capital is growing in its importance to the business world:

*“As the importance of land in production changed dramatically when the economy moved from agriculture to industry, the movement to a knowledge economy necessitates a rethink of economic fundamentals. The accumulation of physical capital is no longer viewed as a measure of economic growth and development. Economists now look beyond traditional factors of production-labour, capital and land as drivers of growth, development and productivity.”*

Shaikh (2004), p. 440

Since the downfall of technology shares, the difference between firms' market value on the stock exchanges and their book values is said to reveal intellectual capital or intangible assets. Since the balance sheet accounts for all physical capital, the difference between market values and book values *indicates* intellectual capital (Shaikh, 2004). The author sees the word “indicate” as the key message as he does not subscribe to the view that the entire difference between book and market value can be explained by intellectual capital, no matter how loosely defined this is. Reasons for the value gap are very likely a wide range of factors, of which IC forms a significant part, but is not the only or necessarily most important factor.

This difference is rarely explained as such, but raises the question of what can be found beyond the financial balance sheet. Edvinsson (1997) divides intellectual capital three ways into "human capital", "organisational capital" and "customer capital", which identify the areas the conventional financial statements do not cover while Kaplan and Norton's (1996a, 2001) balanced scorecard complements the "financial" perspective with "customer", "internal business process", and "learning and growth" perspectives.

Guthrie et al. (2003) define KM as serving the purpose of managing Intellectual Capital (IC) existing within an organisation, which is the definition the author subscribes to as well.

An explanatory definition by Shaikh (2004) states that IC is knowledge that can be converted into value, or in his longer definition that IC is intellectual material – knowledge, information, intellectual property and experience that can be used to create wealth. This statement applies to any type of holder of knowledge, be it a manufacturing company, a service provider, an educational institution, a government or an individual, as shown in Table 2:



Type of organisation	Knowledge	Examples for capitalisation (by the author)
Manufacturing company	R & D knowledge	New product development
Service company	Customer needs	Targeted services
Educational institution	Needs analysis	Course refinement
Government	Socio-economic knowledge	Improvement in living conditions
An individual	Acquired specialist knowledge	Higher wages than when untrained

Table 2: Examples for capitalisation on knowledge

Hubert Saint-Onge developed one of the first popular models for classifying intellectual capital in the 1990s (Shaikh, 2004). By deconstructing intellectual assets into three major groups, human capital, structural capital, and customer capital, Saint-Onge (1996) provides a framework for knowledge resources:

- Human Capital: The mindsets of individuals their assumptions, biases, values, and beliefs.
- Customer Capital: The individual and collective mindsets of customers that shape their perceptions of value provided by any given products or services.
- Structural Capital: The collective mindsets of the organisation's members that shape the culture of that organization, including its norms and values.

Saint-Onge (1996) also stresses the importance of the tacit knowledge of the three groups be congruent in all aspects that affect the firm's activities. Wright et al. (2001) argue that IC is a factor that includes human capital, social capital and organisational capital and defines the three factors as follows:

- Human Capital: Knowledge skills and abilities of people
- Social Capital: Relationships among people
- Organisational Capital: Processes and routines within a firm.

One of the early definitions published in the main stream business press came from Stewart (1991), who states that every company depends increasingly on knowledge such as patents, processes, management skills, technologies, information about customers and suppliers, and – what he calls – old-fashioned experience, these factors added together, this knowledge is intellectual capital. His definition of IC is the sum of everything everybody in a company knows that gives the organisation a competitive edge in the marketplace. Stewart (1997) offers examples from companies such as



Hewlett Packard, General Electric, and Merck & Co. to illustrate effective ways to manage and benefit from intellectual capital after discovering it.

#### 2.2.4 Further perspectives on IC

In a study written for the OECD, Eustace (2000) provides yet another distinction aiming to support further development by expanding definitions beyond the categories in use, by dividing assets into three categories:

- **Conventional assets:** These are all tangible assets recognised in balance sheets.
- **“New” intellectual assets:** Intangible assets such as brand value, know-how.
- **Intangible competencies:** Competencies that foster innovation, structural, market and human resources.

Lev and Daum (2004) refer to the people who have engaged themselves on the issue of knowledge as an asset and to the concept of IC as the “intangibles movement” and consider them having succeeded in what they call the “first phase of the mission: in creating awareness and active discourse about the economic role of intangible assets and their consequences” (Lev and Daum, 2004, p. 7). They argue it is now time for the next level in the active discourse, which should look at:

- The relation of knowledge to other production factors, as intangible assets is not clearly linked to create value or growth.
- Reporting standards that look into the future, as this is what intangible assets are influencing.
- Although all authors previously mentioned agree that IC is an important concept for organisational performance, there is no agreement on what it exactly is.

In response to the last point, Marr et al (2004b) have come up with a taxonomy taking into account many of the existing views on IC based on an extensive literature review on the subject. From this, they categorise seven aspects of IC, where organisational assets are classified as

- **Financial assets;** defined as financial capital.
- **Physical assets;** defined as all tangible infrastructure assets, such as structural layout and information and communication technology, including databases, servers, and physical networks like intranets.
- **Relationship assets;** defined as the essence of relationships between an organisation and its external stakeholders and the related knowledge flow, e.g. corporate reputation, brand image, corporate image, etc.



- Human assets; defined as the key asset, skills, competences, commitment, motivation and loyalty including key components such as know-how, technical expertise, problem solving capability, creativity, education and attitude.
- Culture assets; defined as corporate culture, organisational values and management philosophies, these assets are providing employees with a shared framework to interpret events and help in achieving the company's objective.
- Practices and routine assets; defined as formalised or informal procedures and tacit rules that determine how processes are being handled and how work flows through the organisation.
- Intellectual property assets; defined as the sum of assets such as patents, copyrights, brands, trade secrets and processes whose ownership is granted to the company by law.

This taxonomy of IC is summing up different views on the subject and – while helpful for considering the wide range of topics within the IC discussion – does not necessarily reflect the ideal approach. The author sees more complex definitions as very useful for enabling the thinking process during the theoretical discussions around implementing a performance management framework but not helpful in today's environment where most companies do not yet measure their IC. More simple definitions such as human, organisational and social capital might be much more effective for succeeding with an initial set of measures and more elaborate definitions can be taken into account as a second step. Central to all these ideas is that intellectual capital is embedded in both people and systems. The definition of IC for this research adapted by the author is based mainly on Wright et al. (2001) rather than on Saint-Onge (1996), whose definitions were perceived as too unsubstantial for realising practically applied research into measuring knowledge:

- Intellectual Capital in the context of this research can be subdivided into human (knowledge and skills), social (relationships among people) and organisational capital (processes and routines) as outlined by Wright et al. (2001)
- Knowledge management serves the purpose of managing IC (Guthrie et al., 2003).

### 2.2.5 Knowledge management in professional service firms

As outlined in the introduction *"The only product sold in law is intellectual capital"* (Chatzkel, 1999, p. 6) and the growth of specialisation as outlined by Scott and Christiansen (2004, p. 3) brings with it a rising need to more efficiently deal with that intellectual capital within law firms: *"The growth of specialization means that most corporate legal work does not involve complex problem-solving. With the right experience, specialists can easily recognise patterns and apply familiar tools so that they do not need to "reinvent the wheel." Pattern recognition dramatically increases efficiency. Hourly rates assume everything requires complex problem solving. While few industries have experienced greater productivity gains from specialization, the*



*absence of a competitive market enables law firms to hoard cost savings instead of passing them along to corporations.”*

What is interesting in the law firm environment in particular, or the professional service environment in general, is “that professional expertise and knowledge are both inputs and outputs in this sector” (Hunter et al., 2002, p.8). Knowledge input in the form of individual know-how and collective routines provide the basis for service provision to clients in a very flexible way to meet the different needs of different clients.

The professional experience needed to perform this role is based on formal education as well as professional development (codified knowledge) and on the experience of working with clients and more senior professionals (tacit knowledge). Hunter et al (2002) suggest a high correlation between the quality of recruits and the quality of the output, which in turn would be reflected in the firm’s reputation.

In the law firm sector, the most common structure of firms is a partnership, in which lawyers can become owners of the firm depending on their performance. Rebitzer and Taylor (1999) argue that this can be seen as the prize in a tournament in which the winners forego immediate returns to the value of their knowledge, in order to reap the gains of property rights in the firm in the longer term. Hunter et al. (2002) see the risk in this as the specificity of their knowledge. Such as the facet that close relations to a main client involves the risk that the holder of the knowledge will leave and take the client with him, which is why this implied threat allows the firms to leverage an increased share of the revenue.

*“A law firm can be understood as a social community specializing in the speed and efficiency in the creation and transfer of legal knowledge. Many law firms represent large corporate enterprises, organisations, or entrepreneurs with a need for continuous and specialized legal services that can only be supplied by a team of lawyers. The client is a customer of the firm, rather than a particular lawyer.”*

Khandelwal and Gottschalk (2003), p. 16

As a knowledge-based business, the legal profession faces great challenges and lawyers are constantly in need of new information, such as frequent changes in legislation, new court decisions, etc.: “Lawyers are knowledge workers” (Schulz and Klugmann, 2005b), who have gained their knowledge through formal education and by work experience (Gottschalk, 2003). The changing pace of changes in law and the dynamics of new legal developments have increased and so have client expectations (Schulz and Klugmann, 2005a).

Knowledge management therefore, when efficiently applied can help in meeting these demands. Technological advances have played an important role in this changing pace, Scott and Christiansen (2004) relate how international publishing firms such as Wolters Kluwer, Reed-Elsevier or Thompson have turned what they call “the once sleepy law library” into a \$15 billion a year industry with a tendency to grow beyond that with new products and technologies.



2.2.6 Past, present and future of KM in law firms

Historically, corporate legal departments were excellent communicators of knowledge and as mentioned earlier “knowledge management is nothing essentially new”. Lawyers had a natural sense for knowledge sharing, as they just needed to shout over the hallway or share knowledge in the lunchroom. In the last ten years, the market has seen two developments that have made this personal exchange of knowledge difficult, one is a period of unprecedented growth and merger activity for corporate law firms and the other the trend of outsourcing of corporate legal departments to corporate law firms. Robbins (2003) sees other reasons in increased legal scrutiny, new legislation imposing additional responsibilities on lawyers and the increasing geographic dispersion of lawyers. The numerous mergers between law firms in the last decade have culturally not made KM easier. Schulz and Klugmann (2005 b) see the reasons *in “different offices, each with their own unique history, have, even with individual jurisdictions, developed their own drafting house styles and other habits over decades. KM, as a necessarily central and firm-wide platform, might thus be regarded as a hostile invader into the autonomy of certain offices and their wish to maintain a decentralised culture in the law firm.”* In the future, Gottschalk (2004) expects the legal industry to face further pressure that could be met using KM as shown in Table 3:

Issues arising according to Gottschalk (2004)	Potential KM remedies (by the author)
Global companies increasingly select law firms that can provide consistent support at all business locations and integrated cross-border assistance for significant merger and acquisitions as well as capital market transactions.	Global KM can provide services of consistent quality, content and value.
Client loyalty is decreasing as companies base purchases of legal service on a more objective assessment of their value, defined as the benefits net of price.	KM can be used to lower prices of services as hours needed to work on solutions decrease.
New competitors have entered the market, such as accounting firms and Internet-based legal services firms.	Traditional law firms can go down the same route with a significant headway due to their existing knowledge. Also this only affects legal services on the lower end of the value chain.

Table 3: KM as a remedy for future challenges (Gottschalk, 2004)

Robbins (2003) also criticises that law firms today fail to acknowledge that the “water cooler strategy” (i.e. the proverbial knowledge exchange at the water coolers) really worked, which is the reason why a certain percentage of technology projects fail. Gottschalk and Khandelwal (2004) suggest four stages of growth of KM in law firms based on their own prior research. In their paper, they initially expected these stages to



be mutually exclusive and to be incremental, which was not confirmed by the results. The stages put forward by Gottschalk and Khandelwal (2004) represent common approaches to KM in law firms that can also be found in other research such as Hunter et al. (2002) or Tschida (2004) but have never before been empirically tested:

**(People to technology) Stage 1** is where end-user tools are being made available to knowledge workers which can be as simple as providing networked personal computers and productivity tools such as word processing and presentation tools, legal databases and scheduling software. **(People to People) Stage 2** is where everyone within an organisation and selected external stakeholders such as clients are provided with information of who knows what (ideally aided by a thesaurus to allow a common language). This has the potential to foster easier access to know-how by means of storing and making accessible knowledge about where the knowledge resides. **(People to documents) Stage 3** is where information from lawyers is stored and made available to colleagues; Data mining can support information retrieval and the necessity is likely to arise for dedicated KM staff. **(People to systems) Stage 4** Problem solving information systems are being made available to lawyers and means to enable knowledge of one expert to a broader group of lawyers are being introduced.

The study found most of the firms who returned the survey being at stage 3 as shown in Table 4:

Stage of growth	%
People to technology	16
People to people	21
<b>People to documents</b>	<b>58</b>
People to systems	5

*Table 4: Where law firms currently stand on KM implementation according to Gottschalk and Khandelwal (2004)*

An interesting detail is that the stages of growth model was disconfirmed in so far as only half of the firms surveyed followed the growth model step by step. In 37, 5 % of cases, “People to people” was not stage 2 but later or earlier. In the organisation researched in this thesis, this is also the case and “People to documents” was implemented before “People to people”. However, the stages of growth model gives a good idea of basic approaches to KM and the path taken by law firms.

Gottschalk and Khandelwal (2003) support the statement that KM can improve staff efficiency in law firms and that information technology can be an enabler of this improvement. They believe that law firms will have to change even if technology projects do not provide an immediate rise in profitability, otherwise law firm competitors, such as accounting firms, dot-coms and corporate clients, will begin to push into a client base dominated by law firms offering generic legal services.



Robbins (2003) puts the emphasis on culture that law firms need to build and affirms that the benefits can be significant, such as higher quality service, more consistent advice, and greater responsiveness to clients, productivity gains and improved employee satisfaction. This higher quality advice is possible if lawyers have access to the right information and knowledge. Lawyers can only provide high quality service provided they know what the law is, when they know the policies and standards of the firms as well as the client as well as which positions the corporation has taken in similar situations, who needs to be involved in a decision that varies from a precedent and what sources can provide more information on any of these subjects.

If this information is accessible, regardless of where a lawyer is located, this leads to less irritation with clients who if he consults with more than one lawyer should not get more than one answer. In this relation, KM can be an excellent enabler for managing risk. In practice, the approach to KM is by nature a combined one and approaches that leave either the technology side or the cultural issues out of sight are bound to fail. Or as Silver (2000, p. 29) sees it: *“Knowledge management is a multi-dependant discipline integrating business strategy and process, organisational community and culture, collaboration, learning, expertise, and technology. A knowledge management program that undervalues this balance will fall short.”* Figure 2 provides a list of reasons from a survey by Disterer (2005) on what objectives law firms pursue with KM. As can be seen in the figure below, capturing knowledge for re-use and standardising to increase quality are the highest scoring objectives:

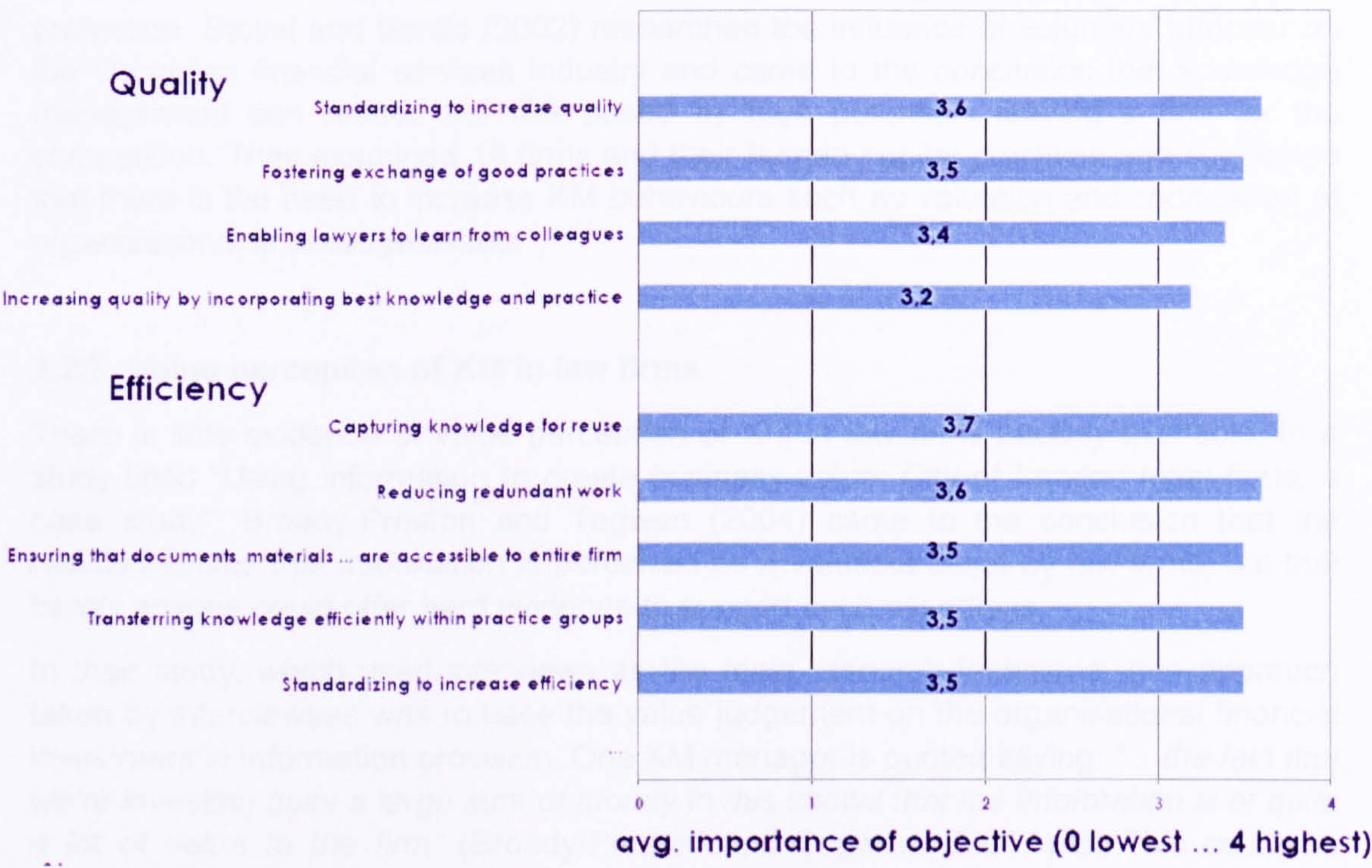


Figure 2: Major objectives of KM in law firms (Disterer, 2005)



More interesting perhaps are items that ranked lower on the scale of importance. These were seemingly important issues like reducing dependency on individual lawyer's knowledge, protecting the firm from loss of knowledge due to staff leaving the firm, knowledge transfer across practice groups, risk management and assistance in international transaction (Disterer, 2005). The case study is the only one of its kind, providing empirical insight into KM in law firms, however the author had difficulties with the fact that everyone interviewed was actually working in the KM department.

Generally professional service firms operate on the basis that they project the image of employing copious amounts of highly trained and very smart people that will provide innovative solutions to the individual client's complex problems. In reality, specialist consultants solve the same problems for different clients over and over again. This is where knowledge management comes in. According to Scott and Christensen (2004), most of the problems can be solved according to a pattern that a highly specialised consultant can recognise easily and solve with solutions applied to problems in the past, which can be drawn from a knowledge repository. As Scott and Christiansen (2004, p.3) put it: "While few industries have experienced greater productivity gains from specialisation, the absence of a competitive market enable law firms to hoard cost savings instead of passing them along to corporations" [= their clients, added by the author].

Chakravarthy (2002) has identified three KM activities that have a substantial role in providing a firm with competitive advantage. Given that a firm has already accumulated knowledge, the activities needed to achieve this advantage are to protect, leverage and transform it. This way the firm can achieve profitable growth as well as revenue protection. Stovel and Bontis (2002) researched the influence of voluntary turnover on the Canadian financial services industry and came to the conclusion that knowledge management can reduce the risk posed by high potentials leaving a firm for the competition. They examined 19 firms and their human capital practices and suggested that there is the need to increase KM behaviours such as valuation and codification of organisational knowledge assets.

### 2.2.7 Value perception of KM in law firms

There is little evidence of value perception of KM in law firms publicly available. In a study titled "Using information to create business value: City of London legal firms, a case study", Broady-Preston and Tegwen (2004) came to the conclusion that the results indicate that information is perceived as a valuable asset by law firms, but that hardly anyone could offer hard evidence to support such assertions.

In their study, which used interviews as the main research technique, one approach taken by interviewees was to base the value judgement on the organisational financial investment in information provision. One KM manager is quoted saying: "*... the fact that we're investing quite a large sum of money in this shows that the information is of quite a lot of value to the firm*" (Broady-Preston and Tegwen, 2004, p.5) This could be argued to be considering input rather than output.

Rusanow (2003) puts the level of investment in relation to the desired outcomes and sees the value less as an asset, but more in differentiation from competitors, but



cautions that *“the level of effort associated with managing knowledge should be directly related to value”* (Rusanow, 2003, p. 112).

Disterer (2005) concludes that there are no substantial methods of calculating economic value of KM activities in law firms right now, with 71% measuring usage only, 58 % measuring size or growth in collections, 54% counting content access numbers and a quarter of firms doing estimations on either time saved or cost reduced.

### 2.2.8 Barriers to KM in law firms

According to Khandelwal and Gottschalk (2003) there are several common hurdles in law firms that hinder knowledge management: individuality, time, lack of incentives and success.

**Individuality** is encouraged in law firms; lawyers are not building their reputation on team-based approaches to legal work or on their willingness to share their expertise. This is also a notable difference in the approaches US and UK law firms take towards partner compensation. In US law firms, partner compensation models are based on “you eat what you kill”; meaning partners are paid according to their share of billable hours and “their” clients. UK law firms are mostly in what is known as the lock step system, meaning they share profits equally based on seniority. This enables knowledge sharing and client recommendations within a firm.

**Time** is a big issue as any minute spent on knowledge management is not time billed and is therefore profit lost.

Scott and Christiansen (2004) provide additional insight into the issue of the billable hour seeing it as a counter-intuitive measure of value as it encourages spending more time on needless work that can be charged out as opposed to doing value adding services. Disterer (2005) published a survey where 100% (!) of respondents (high level KM staff in law firms) selected the answer “senior lawyers are too busy to reflect on their own experiences and share them” as a major barrier in their KM activities.

The billable hour deserves more space in this literature review as it is often cited as a possible barrier to knowledge sharing due to the culture of requiring a certain amount of billable hours:

*“... in law firms where lawyers are expected to achieve a certain amount of chargeable hours, an incentive for contributions to knowledge management could be to put knowledge management work on an equal footing with client work, thus encouraging lawyers to spend some of their free capacity on knowledge management work without being afraid of losing out on billable hours...”*

Schulz and Klugmann (2005b)

Scott and Christiansen (2004) explain where the concept of billable hours is coming from as opposed to the way lawyers used to charge before 1940 when billing was based on the significance of the matter, the skill required, the work done and the result:



*“After World War II, law firms and corporate law departments moved to hourly billing as a way to more accurately measure the value of legal services. The billable hour became the standard system for overseeing and compensating outside counsel. In lawyer-like fashion, strict rules were imposed, specifying in minute detail what could appear on bills. At \$300, \$400, \$500 and \$600 per hour, it seems logical to account for a tenth of an hour. Law department and law firm compensation inevitably became skewed towards those who excelled at the cat-and-mouse game created by the billable hour.”*

Scott and Christiansen (2004), p. 3

Billable hours can therefore be seen as a major barrier in law firms as the concept of the billable hour is intrinsically opposed to fostering an environment where time can be set aside for helping the knowledge base to develop. Success can also thwart knowledge management as the perception in law firms, which have been successful so far is that they do not necessarily want to change their modus operandi. Large law firms have done well even without the extensive use of IT, so why should they go further? Lack of incentives is another issue that can obscure the existence of a knowledge marketplace.

Disterer (2005) had a 70% positive response rate on “lack of incentives” as a barrier for KM. KM in law firms is an emerging discipline, with hardly any other sector being so dependant on knowledge and hardly any other sector making it such a priority in terms of investment and staffing (Disterer, 2005) ; (Willamowski, 2005). Underlining the importance of KM in law firms is a finding by Disterer (2005): For every 25 lawyers in Europe, there is now 1 knowledge management professional.

**2.2.8.1 Compensation models as an enabler or hindrance for KM**

Compensation models in law firms have a strong influence on the prevailing culture in a firm and the attitude towards knowledge sharing.

There are basically two main concepts, revenue based compensation and lock-step compensation. Other concepts are usually mixtures between the two, with salaried partners and/or equity partners mixed up with revenue based partners. These concepts are discussed in more detail in Table 5:

Implications	1. Revenue based	2. Lockstep
Concept	A partner's compensation is solely determined by the amount of revenue generated by the partner. Partners focus on their own practice rather than on the whole firm. (Rusanow, 2003)	A partner's compensation is based on seniority and overall contribution to the firm. Revenue generated directly by a partner is only one criterion in partner assessment. (Rusanow, 2003)



Business	Encourages partners to grow business and be entrepreneurs. (Rusanow, 2003)	Incentive to cross sell to other partners and grow the firm as a whole. (Rusanow, 2003)
Implications for KM	<p>A high level of competitiveness among lawyers can generate a fear of losing influence by sharing one's "unique" knowledge. (Schulz and Klugmann, 2005a)</p> <p>No incentive to invest non-billable hours in KM (Rusanow, 2003)</p> <p>No incentive to share knowledge (Rusanow, 2003)</p>	<p>Knowledge sharing is most likely easier as there is no fear of losing clients (Schulz and Klugmann, 2005b), (Rusanow, 2003)</p> <p>KM can be included in partner assessment (Rusanow, 2003)</p> <p>Lawyers with specific know-how in a particular subject-matter typically hope to enjoy a higher standing and reputation within the firm by keeping their expertise instead of sharing it. (Schulz and Klugmann, 2005a)</p>
Regional focus	Mostly US firms	Mostly UK law firms

Table 5: Difference in law firm compensation models

Chourides et al. (2003) see it as a task of senior managers to get people to work collectively for common i.e. organisational goals. This implicates sharing knowledge for the greater good. In revenue based contribution systems, the senior managers are less interested in contributing to the greater good of an organisation, and so are less likely to share knowledge. The lockstep model – however beneficial for knowledge sharing – may be limited in future application. Chen (2005) suggests that lockstep is good only for small firms where it decreases competition and promotes collegiality, but that in today's world of business the effect is that rainmakers of British law firms are being enticed by the revenue based compensation system which has led to some leaving their lockstep based firms.

Tyler (2005), himself a managing partner of a firm just having moved back to the lockstep model contradicts this and sees substantial benefits in it: Lockstep is important for KM as it supports the notion of being one integrated law firm where all partners share the consequences of an individual's performance (Tyler, 2005). The implication of this is that knowledge is more likely to be shared openly in lockstep based firms.

2.2.9 The relationship between KM and KM in law firms

Knowledge management in law firms draws from the same principles and ideas as in any other sector, however certain specifics need to be taken into account, such as different limitations as well as different opportunities. The key issue in practice is how to motivate people to share, the notion of knowledge being power applies like in any



other industry, however, as discussed in section 2.2.8.1 compensation models are the key distinguishing point between US (mainly revenue based) and UK (mainly lockstep) law firms. Knowledge sharing is more complicated where lawyers are remunerated purely on the basis of business generated.

Another important barrier is the concept of hourly billing (section 2.2.8) which leads to a negative perception of higher efficiency as less money can be billed for the same work. This is unique to the professional service industry as most other industries strive to achieve higher efficiency.

In 2005, there has been a surge in law firm KM related literature (Darroch, 2005; Schulz and Klugmann, 2005; Chen, 2005; Tyler, 2005; Disterer, 2005) that builds on general KM literature and uses the findings from other industries to test them and further develop them in a law firm environment. This surge came as a surprise to the author as previously very little publicly available information could be found on the subject due to law firms being very secretive by nature.

Law firms can be seen as early and capital intense adapters and it needs to be taken into account that this is also due to the fact that *“that professional expertise and knowledge are both inputs and outputs in this sector”* (Hunter et al., 2002, p.8) and knowledge is basically the only product. Legal advice is what is bought for a high price by clients. Due to this, knowledge management has a comparably higher potential in law firms than in many other industries, where other inputs and outputs are just as relevant or comparably more relevant than knowledge.

### 2.2.10 Summary

Knowledge has become an important factor in today's economy but the highly unorganised (=unmeasured) way in which it is managed is not reflecting that importance. Organisations often lack the understanding and the means to fully utilize the potential of knowledge and thereby miss out on turning it into intellectual capital and profit. Managing knowledge – which is the definition used in this research when talking about managing intellectual capital – is a prerequisite for competitive advantage and a differentiator among professional service firms that may well decide which ones are here to stay and which ones are left behind.

Many challenging barriers hindering knowledge management in professional service firms are yet to overcome. Some of these barriers are deeply rooted in the way these firms are set up and would sometimes require very significant changes, an example for this being the concept of billable hours.

Although many law firms are investing heavily in KM, little empirical support is provided for the role of KM in these firms (Disterer, 2005) and how the success of such initiatives can be measured.



2.3 Performance management

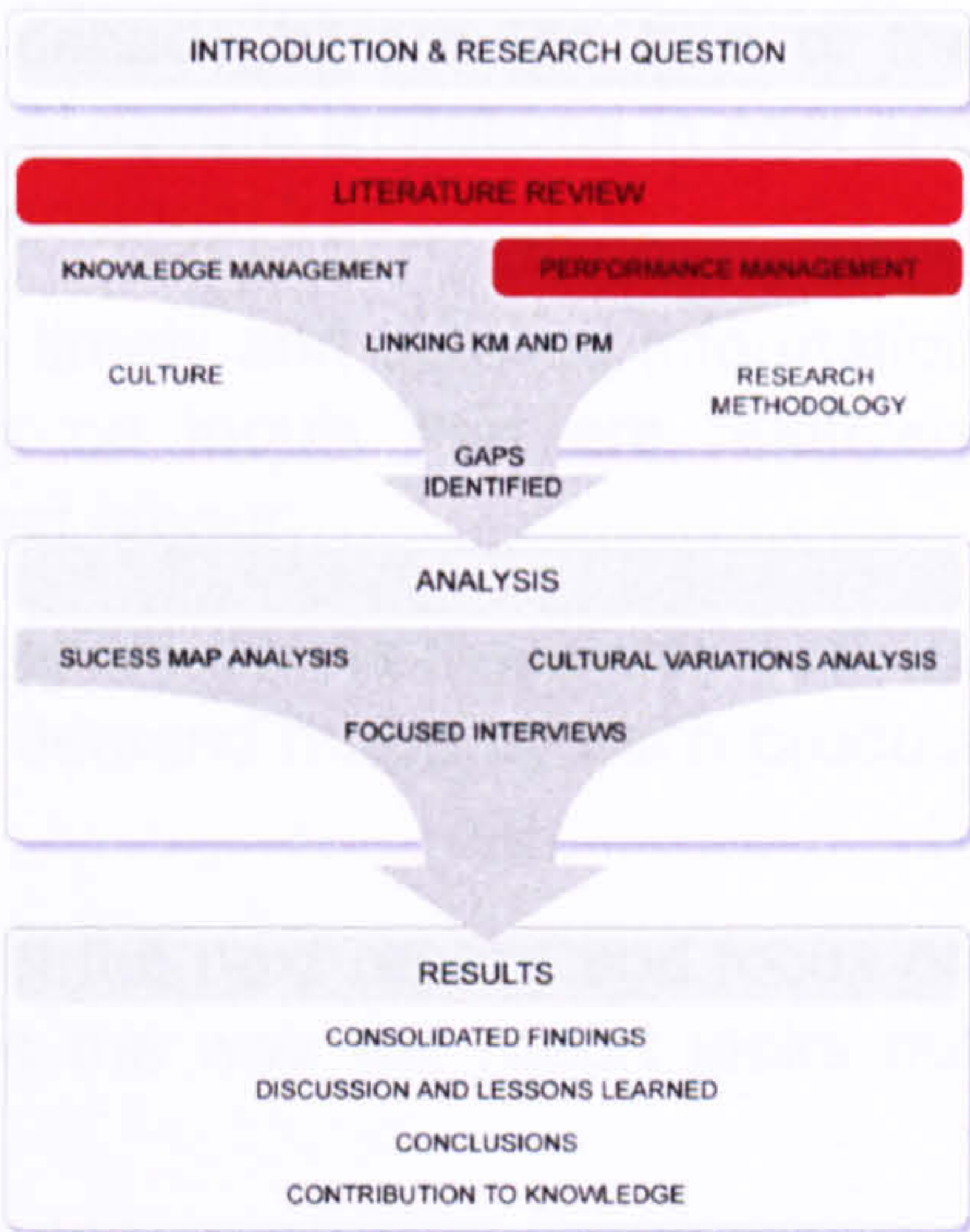
The following section provides an overview on the PM topic. After discussing the origin of performance management and putting it in context with today’s business world, the Balanced Scorecard is discussed in more detail as this is used in the case study of this research.

2.3.1 What is Performance measurement/management?

Just like the terms KM and IC, the terms performance management and performance measurement are often used at a seemingly exchangeable level. And just like KM and IC they are not interchangeable and therefore a clear distinction is needed at the very start of this chapter: Performance measurement is the process of assessing progress toward achieving predetermined goals, while performance management is building on that process adding the relevant communication and action on the progress achieved against these predetermined goals (Bourne et al. 2003).

The earliest PM programmes, which according to Pratt (1991) can be found during the Industrial Revolution, concentrated on crude and simple measures on the basis of quantity output that was the basis for the pay awarded to workers. These early measures were also appraisal systems set up to measure worker performance. In the simplest system through direct observations such as a foreman with a stop watch in hand. Over time, more complex tasks required the application of greater skill, knowledge and ability. In the early days of PM, this allowed personal attitude by the rating official (Pratt’s literal “person with the stopwatch”) to influence the outcome. Johnson (1972) gives examples of what type of organisations started to adapt cost and management accounting and why they moved away from double-entry bookkeeping. Double-entry bookkeeping had been around at least since the 14<sup>th</sup> century (Johnson and Kaplan, 1987) when a Venetian monk first described the basics for a well functioning double-entry bookkeeping system.

Johnson (1972) describes how organisations became of such a large scale that they actually needed reliable cost data to determine prices, assess results and evaluate capital-intensive technological innovations. Such organisations were large railroad companies or complex production industries such as steel, chemical and metal producers. The growing complexity and sophistication of production processes such as the purchasing of semi-finished goods (Johnson, 1972) contributed to more confusion when using only double-entry bookkeeping and therefore cost and management accounting came into existence. This is basically the step in the development of accounting when accountants learned to use information scattered across an organisation and started to integrate processes such as allocating overheads and transferring materials from one process to another. Johnson (1972) argues that this growing complexity can be dealt with by applying more sophisticated performance measures to change the way business is managed, thus creating structures to move





from simple to complex organisations. More than a decade before the turn of the millennium, Johnson and Kaplan (1987) identified several severe limitations in cost and management accounting that ultimately led to multi-dimensional frameworks:

- Management accounting reports do not provide timely and detailed information on process efficiencies or focus too narrowly on inputs that are relatively insignificant in today's environment, such as direct labour.
- Inaccuracy in product costs, as costs are allocated on simple measures such as direct labour, which clearly does not reflect the demand made by each product on the firm's resources.
- It encourages managers to think short term (until the next report) and focus on measures that in the short term might improve the way the report looks but actually harm the business.

So as the complexity of organisations in need of PM soared, the frameworks to manage performance also developed. Wilcox and Bourne (2002) identified three main phases of PM over the last 150 years:

1850 – 1925: Cost and management accounting

1974 – 1992: Multi-dimensional performance measurement frameworks

1992 – 2000: Strategy maps, business models or cause and effect diagrams

Lev (2003) considers traditional cost and management accounting mismeasurement and deficient reporting of intangible assets and supports this by research done around the information content of earnings announcements based upon the correlation between these announcements and the actual change they triggered in stock prices as outlined by Lev (2003, p. 19): *"We found that there has been a constant decrease in the magnitude and stability of the role that earnings, the change in book values (net assets on the balance sheet), and operating cash flow announcements play in investor's decisions. If equity prices reflect all the information that investors receive from all sources, the contribution made by earnings and other financial measures has been decreasing throughout the 1980s and 1990s."*

The focus on wrong but seemingly meaningful numbers distracts managers from the real targets and hinders them in understanding what really is creating value and contributing to the success of an organisation. As complexity and requirements grew, and especially with a changing pace of the environment, PM also needed and still needs to change, as Wongrassamee et al. (2003, p. 14) stress: *"Over the past decade, a rapid increase in global competition brought about a technological change and product variety proliferation has accentuated the role of continuous performance improvement as a strategic and competitive requirement in many organisations worldwide."*

The major shift to the last phase was to a large part due to the Balanced Scorecard (BSC), which widened the concept of performance measurement by making



organisations look externally as well as looking at internal performance beyond the financials alone. Initially the strategic element was not included in the BSC, but when the limitations due to the lack of this perspective became clear, it evolved to incorporate the concept of success maps (Bourne et al., 2003). The difference in meaning between the terms performance measurement and performance management is defined by Bourne et al. (2003, p.15): *“Performance management is a term widely used within HR and has a specific meaning associated with reviewing and managing individuals’ performance. However, there is also a growing concern in performance measurement that measuring performance is not enough. Measurement has to lead to insight and insight to action – hence the term corporate performance management has been born to differentiate between management at the level of the individual and the corporation.”*

This thesis will use the abbreviation PMS for a combined performance measurement/management system. According to Simons (2000) this can be defined as information systems that managers use to track the implementation of business strategy by comparing actual results against goals and objectives. A performance measurement system typically comprises systematic methods of setting business goals together with periodic feedback reports.

### 2.3.2 The Balanced Scorecard

The balanced scorecard (BSC) is the framework used in the case study organisation and will therefore be used and discussed in more detail in this thesis. There are multiple – mostly very practical - reasons why the BSC was chosen over other approaches such as an adapted version of the Skandia Navigator or return on investment/assets models, which are described in section 2.4.3.

The BSC is almost a global standard that offers high degrees of flexibility, literature (for example Horvath, 1998; Deking, 1999; Arveson, 1999, Tiwana, 2002; Forstenlechner, 2002; Marr, 2004) supports the notion of the BSC being an appropriate framework to measure and manage KM and it allows the mapping of cause and effect relationships, which was identified as a key requirement by the case study organisation. According to the Balanced Scorecard Collaborative (2000), the BSC methodology is centred on a holistic vision of a PMS specifically linked to the strategic direction of the organisation. In the BSC functional standards, the BSC is formally and succinctly defined as a multi-dimensional framework that uses measurement to describe an organisation's strategy.

Schneiderman (2001) describes the first balanced scorecard, which was developed at Analog Devices in 1988 as part of a 5-Year Strategic Plan with the help of Arthur Schneiderman himself. It resulted from a process that started with articulating Analog Devices’ strategic commitment to its five major stakeholder groups: communities, customers, employees, stockholders and suppliers. The gaps in stakeholder satisfaction provided the external perspective, and were mapped into required process improvement to provide an actionable internal perspective. The resulting scorecard was the enabler for efforts that led to improvements in customer satisfaction and operating efficiency, the focal points of Analog’s strategic objectives, and contributed in part to a significant increase in shareholder value. The BSC was then further



developed and publicised by the Nolan Norton Institute (A research company, part of KPMG) by the CEO of the Institute, David Norton who served as the study leader and Robert Kaplan who was the academic consultant on a project. The BSC was the outcome of a study with the title "Measuring performance in the organisation of the future". The research involved 12 companies and the outcome was a framework, which aimed at translating an organisation's mission and strategic objectives into a set of performance measures. One of the main focus points of the BSC is still how the organisation performs financially to provide an overall organisational health check but beyond the pure financials there is a much broader picture of organisational performance being looked at (Kaplan and Norton, 1996a). It was first published in early 1992 in the Harvard Business Review. Since then it has become the best known and most widely implemented multi-dimensional performance measurement model among worldwide organisations. The main strength of the BSC is that the framework is not purely financial but that it provides a way to implement and communicate the company's strategic vision. The BSC looks at organisational performance from four perspectives (Kaplan and Norton, 1992):

*Customer perspective - to achieve the vision, how should the organisation look at its customers?*

Kaplan and Norton (2000) describe this perspective as follows: The core of a business strategy is a value proposition to the customer describing the unique mix of product and service attributes, customer relations, and corporate image that a company offers. It defines how the organisation differentiates itself from competitors. Citing their own research, Kaplan and Norton (2000), have found that although a clear definition of the value proposition is the most important step in strategy development, approx. 75% of executive teams do not have a common definition of this.

*Internal business perspective - to satisfy customers and shareholders, what business processes should the organisation excel at?*

In this perspective Kaplan and Norton (2000) see the potential to define the means by which to reach the goals set in the customer and financial perspective. Change must happen internally in order to facilitate change in interaction with the customer. What needs to be measured here is not only cost and quality of operations but beyond this also innovation and customer management processes, otherwise there is the danger of a disconnect between strategy and how it is measured.

*Innovation and learning perspective - to achieve the vision, how will the organisation sustain its ability to learn and improve?*

Kaplan and Norton (2000) have overhauled the name of this perspective and renamed it "Learning and Growth" in their later works. This is the foundation of any success map, the lower end, that defines core competencies and skills, the technology and the corporate culture needed to support an organisation's strategy. More specifically, the organisation must determine how it can satisfy critical requirements that arise from internal processes.

*Financial perspective - to succeed financially, how should the organisation look at its shareholders?*



Financial growth can have different paths, Kaplan and Norton (2000) suggest two routes, revenue growth and productivity, meaning possible measures can include cross selling, bundled products, etc. Using cause-effect relations can highlight the potential of different strategies and help in making sure that strategies such as cost reduction and improved asset utilisation do not hinder future growth. Over the years, the BSC concept has been adapted to changing needs, and Kaplan and Norton (2000) acknowledged these changing needs in an information age: "In the information age, businesses must increasingly create and deploy intangible assets- for instance, customer relationships; employee skills and knowledge; information technologies; and a corporate culture that encourages innovation, problem solving, and general organisational improvements." (Kaplan and Norton, 2000, p. 167).

By prioritising these four perspectives, the BSC recognises three major stakeholders in an organisation: shareholders (financial perspective), customers (customer perspective) as well as employees (organisational perspective, learning and growth perspective)

Figure 3 provides a graphic overview on the scorecard concept including the questions that can be posed to understand the context of the perspectives:

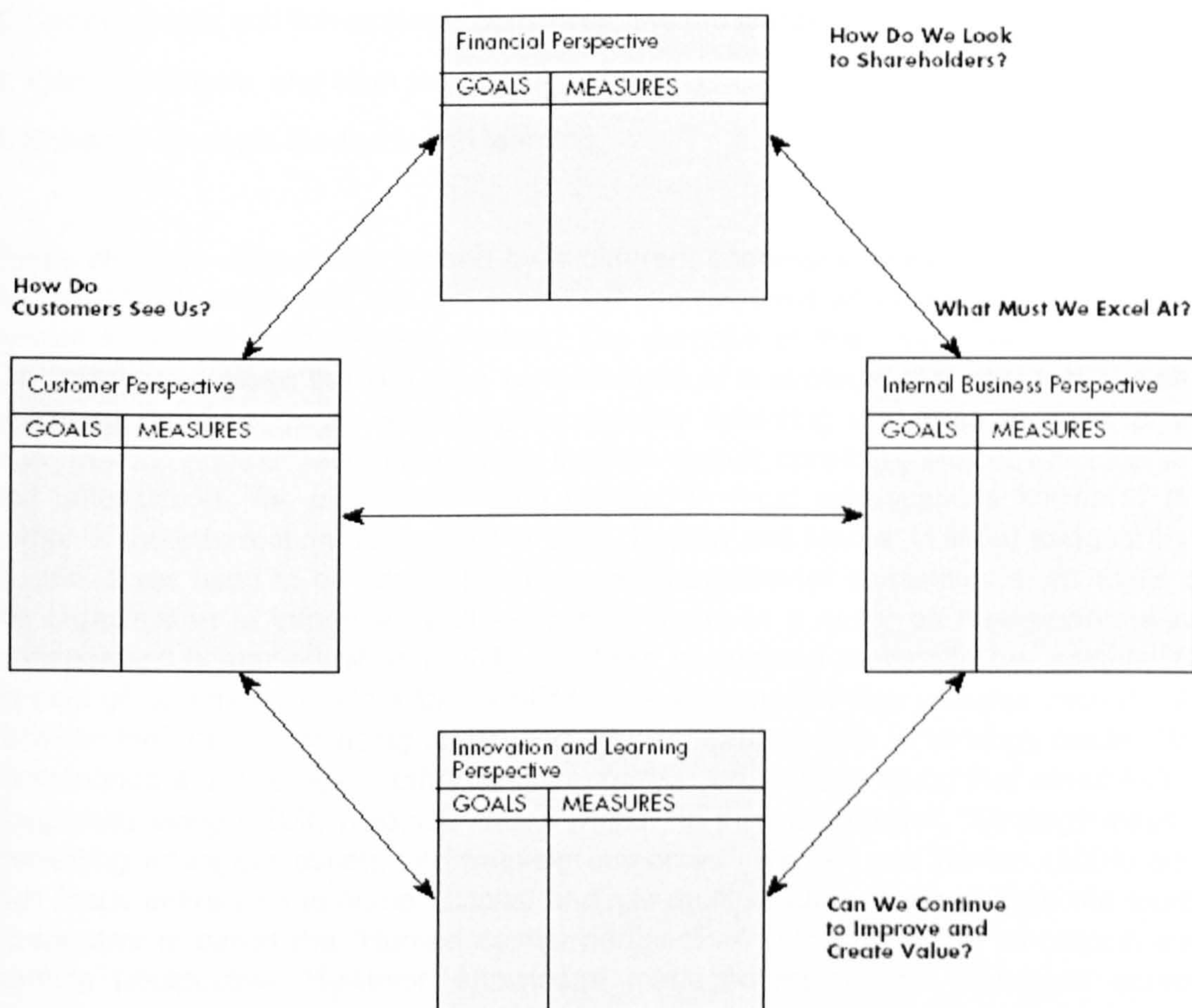


Figure 3: Balanced Scorecard concept, Kaplan and Norton (1992), p. 72



The implementation of a balanced scorecard can be very flexible in terms of the size of an organisation and the scalability of its implementation. According to Kaplan and Norton (1996), the scorecard is more of a pattern than a straightjacket. The main activities in setting up a scorecard are filtering (organisations would typically have access to more measures than they needed to create a meaningful scorecard) and clustering (deciding which measures would fit into which perspective). Kaplan and Norton (1992) suggested that measure selection should focus on information relevant to the strategic plans of an organisation. In addition attitudinal questions can be used to determine the appropriate allocation of measures to perspectives. In the original paper there were little specific observations concerning how the Balanced Scorecard would improve organisational performance. The implication was that the provision of accessible relevant measures would trigger improved performance. The focus was very much on selection and reporting. Kaplan and Norton (1992) illustrated simple causality between the four perspectives but did not put in a clear message about how to do this or what the benefits were. As the BSC became more and more popular, Kaplan and Norton (1996b) introduced the “strategic framework for action”, consisting of four specific processes that help to enable the success of a BSC:

1. Clarify and translate vision and strategy.
2. Communicate and link strategic objectives and measures.
3. Plan, set targets, and align strategic initiatives.
4. Enhance strategic feedback and learning.

These changes were characterised by a different scorecard definition by Kaplan and Norton (1996), which was that the scorecard evolved from an improved measurement system to a core management system. The purpose of this major shift in the BSC concept was to make the BSC the core element of a strategic management system, which meant to put more weight into accurately reflecting the strategic goals of an organisation. Another recommendation that the author considers almost revolutionary and unfortunately far away from being realised in most organisations known to the author is the information aspect of the BSC. Kaplan and Norton (1996a) suggest that the measures need to be part of the information system for employees at all levels of the organisation to inform as well as involve them. In a study on how performance management is applied, Marr (2004, p.9) talks of success maps: *“In our sample, 54 percent of respondents with a formal BPM approach say that they visualise causal links between their measures using cause-and-effect diagrams such as strategy maps. This corresponds with findings in other smaller studies, which have found that about half of companies using a BSC also use causal maps.”* In their latest book, “Strategy maps – converting intangible assets into tangible outcomes”, Kaplan and Norton (2004) shift their focus entirely on to human capital and cite multiple case studies where the fourth perspective is called the “Human capital perspective” rather than the Innovation and learning perspective. However, knowledge management specific measures remain very abstract in Kaplan and Norton (2004) and mostly usage specific, such as Kaplan and Norton (2004, p. 305) the focus on hours of training per person or number of best practices identified, which is unhelpful for determining the link to performance.



2.3.3 Success maps / Causal maps

Success map are at the core of the BSC, differentiating it from a mere set of indicators.

Neely and Bourne (2000, p. 4) explain the basics of success maps: *“The success map is a cause and effect diagram that explains the organisation's strategy and the manager's theory about how the business operates. The success map explicitly lays out the levers that managers can pull and the impact that pulling these levers will have on the business's performance. A success map for a typical manufacturing company might, for example, argue that it is necessary for the business to improve operating efficiency. The way the business is going to improve operating efficiency is by improving delivery on time. The way the business is going to improve delivery on time is by reducing lead times and improving stock control. And the way the organisation is going to reduce lead times and improve stock control is by getting ideas from employees about how to achieve these ends.”*

Success maps are the basis of knowing why to measure what, i.e. establishing causal relationships between indicators. Bourne et al. (2003, p. 17) see the success map as an excellent vehicle for communicating direction, but also state that a number of organisations are going further: *“Companies have moved from multidimensional views of performance to building success maps that link these views together and that the best are now empirically testing the relations in the success map.*

Figure 4 is taken from the study previously mentioned by Marr (2004). It provides a sample success map based on BSC perspectives that can be very helpful in visualising what was discussed above on what the perspectives are and what they should contain:

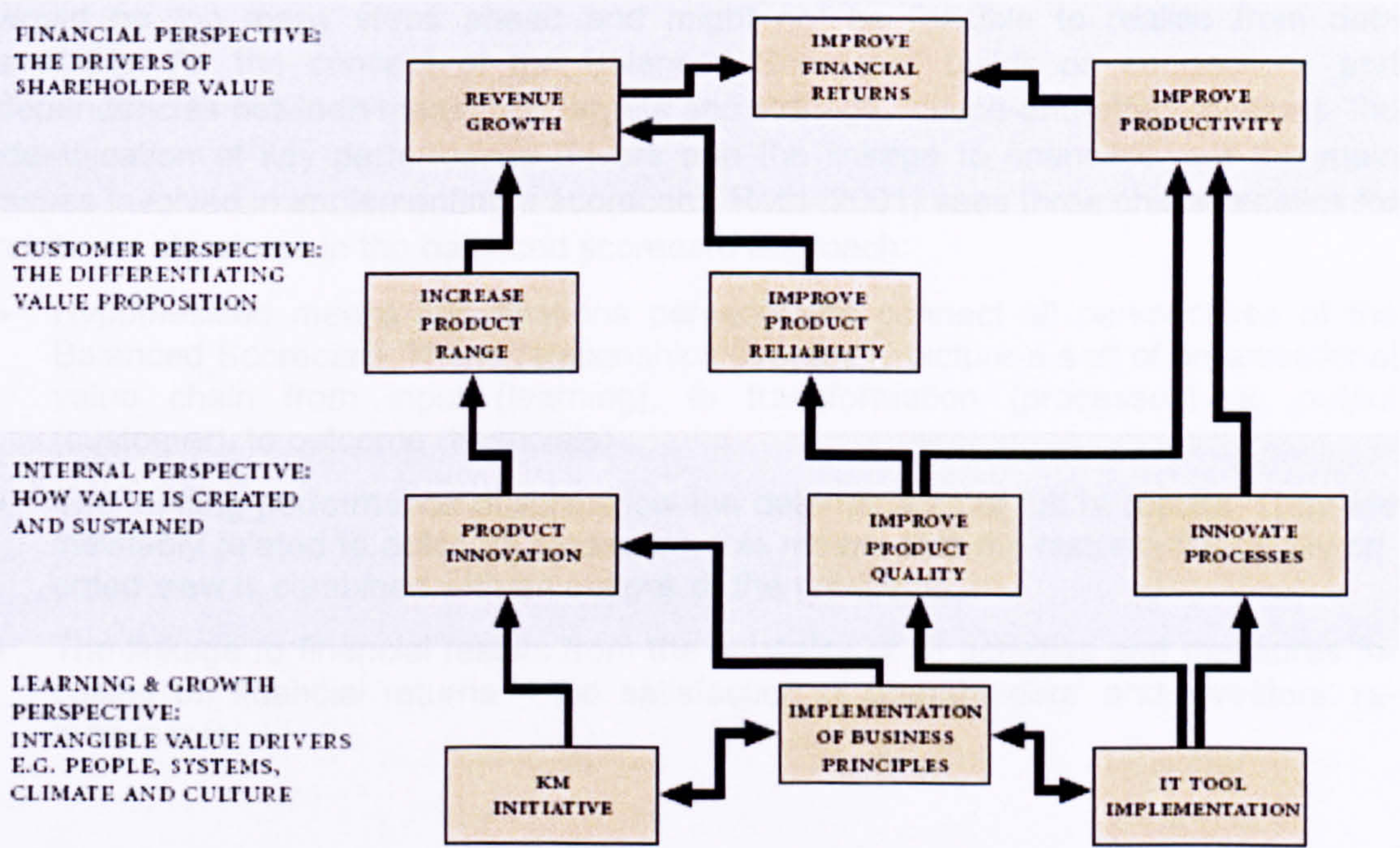


Figure 4: Sample success map based on Marr (2004, p. 13)



In a later research paper, Marr et al (2004b) challenge the notion of a straightforward scorecard and emphasise the interconnectivity of assets, especially between intangible or intellectual assets, which is argued with the following example:

*“The map contains employee competencies and technology, as well as corporate culture as assets and corporate performance drivers in the learning and growth perspective. Each of these assets cannot be seen separated from one another. Employee competencies, for instance, depend on the technology available in the organisation. The latest technology is worth little without the right knowledge and competencies of how to operate it. In turn, all the latest understanding and knowledge of how to operate technology is worthless if employees do not have access to the technology.”*

Marr et al. (2004), p. 317

Marr et al. (2004) argue that it is impossible to manage organisational assets efficiently without understanding the interrelationships and interdependencies of such assets and suggest a step beyond the strategy map – a novelty they call the “value creation map”. A value creation map follows the same principles as designing a strategy map, starting from the top downwards and defining why an organisation exists. The difference is that the interrelationships are being shown on a “matrix of indirect dependencies”, connecting each different asset by the relative importance to each performance dimension. In relation to this research the author does not deem this approach necessary, as first of all the very basics need to be defined. The value creation map would be too many steps ahead and might not be feasible to realise from data available. As the concept of the Balanced Scorecard builds on connections and dependencies between measures, targets and strategy, cause-and-effect relations, the identification of key performance drivers and the linkage to financials, are the main issues involved in implementing a scorecard. Roth (2001) sees three characteristics for relational structures in the balanced scorecard approach:

- Hypothesised means-end relations pervade and connect all perspectives of the Balanced Scorecard. These relationships eventually picture a sort of organisational value chain from input (learning), to transformation (processes), to output (customer), to outcome (financials).
- The leading performance drivers show the determinants of future results. They are inevitably related to outcome measures; this means that the historic, financially oriented view is combined with an outlook to the prospects.
- The linkage to financial results from the causality of all activities and measures focusing on financial returns – the satisfaction of shareholders’ and investors’ requirements.

Roth (2001) argues that the founders of the Balanced Scorecard nevertheless fail to provide a methodology for an analytically and verified construction of all those relations and interdependencies. This is also a point where the author hopes to contribute through this research.



2.3.4 Selecting the right measures

While the previous sections of this chapter focussed on the frameworks and the foundations of performance management, the process of determining appropriate measures still needs to be discussed. McKinsey (2005) stresses the importance of developing the right balance between short- and long-term performance and suggest that in order to obtain that balance a good start is to agree on a core set of metrics tailored to the specifics of a company's industry, maturity, culture and current situation.

Research by the Hackett group (2004) has shown that average companies include nine times too many metrics and overemphasise historical performance over future outlook. The research further suggests that most companies are having significant difficulty taking the scorecard concept from being a concept to reality, reporting an average of 132 metrics made up of an average of 50 % internal financial data and only 33 % operating statistics. The author found two models, by Adams and Neely (2002) and by Otley (1999):

- Adams and Neely (2002) developed the Performance Prism, which is designed to help organisations choose the right measures, which is a vital process in building a PMS. The five questions are centred on strategy formulation and stakeholder involvement.
- Otley (1999) has formulated five questions that need to be addressed when introducing a framework to manage organisational performance.

Table 6 compares the two approaches by Otley (1999) and Adams and Neely (2002):

Otley (1999)	Adams and Neely (2002)
1. What are the key objectives that are central to the organisation's overall future success, and how does it go about evaluating its achievement for each of these objectives?	1. Who are the important stakeholders in your organisation and what do they want and need?
2. What strategies and plans has the organisation adopted and what are the processes and activities that it has decided will be required for it to successfully implement these? How does it assess and measure the performance of these activities?	2. What are the strategies we require to ensure the wants and needs of our stakeholders are satisfied?
3. What level of performance does the organisation need to achieve in each of the areas defined in the above two questions, and how does it go about setting appropriate performance targets for them?	3. What processes do we need to put in place to allow us to execute our strategies?



4. What rewards will managers and other employees gain by achieving these performance targets or, conversely, what penalties will they suffer by failing to achieve them?	4. What capabilities do we need to put in place to allow us to operate and improve our processes?
5. What are the information flows feedback and feed-forward loops that are necessary to enable the organisation to learn from its experience in the light of that experience?	5. What do we expect the stakeholders to contribute?

Table 6: Otley (1999) vs. Adams and Neely (2002) on selecting the right measures

These are all questions that need constant refocusing in order to avoid measuring what is not important any longer. The main focus in both these frameworks is similar and is built to make managers think on the high level and beyond their traditional short-term tasks. Both methods share the outlook on stakeholders and strategies but beyond that Otley focuses more on incentives as well as information flows, whereas Adams and Neely look more generally at processes and stakeholder contributions. For an organisation to develop the appropriate measures, a combined approach may be best looking at where the organisation is at in the moment of measure creation and where the strengths and weaknesses are.

2.3.5 Traceable benefits through performance management

Performance management must trigger tangible benefits for the organisation applying it and investing in it, such as leading to a better understanding, and actions to improve results. Researchers and practitioners (for example Rucci et al. (1998), Bititci et al. (2004)) have traced the benefits of PM by researching the links assumed in performance management frameworks. These studies were selected because they add case study findings and empirical research to the theory of performance management. However different the approaches are, they all show the benefit of PM and support the statement by Bourne et al. (2003) that *“measurement has to lead to insight and insight to action”*

2.3.5.1 Rucci et al. at Sears

Rucci et al. (1998), three upper-level managers with Sears between 1993 and 1995, describe the process that transformed the US retailer Sears, which in 1992 suffered a net loss of \$3.9 billion on sales of \$52.3 billion. Rucci et al. (1998) attributed this to the organisation’s diversification to non-core business fields and triggered a reorientation using the Employee-Customer-Profit model and the creation of Total Performance Indicators used to measure both financial and non-financial performance.



These models were developed by senior management task forces dedicated to the five factors considered most important to Sears' future – customers, employees, financial performance, innovation and values.

The result of these task force meetings was the mission statement for the transformation: "Sears, a compelling place to work, to shop, to invest" and "Passion for the customer, our people add value and performance leadership". Sears developed a set of measures, similar to a balanced scorecard, which measured how well Sears was doing with customers, employees and investors. These measures were called Total Performance Indicators or TPI. In the process Sears wanted to determine the validity of these drivers of future financial performance through the method of pathway modelling. While multiple regression often raises as many questions as it answers as it examines data via correlations without establishing causation, path analysis seeks causal pathways and is a procedure for giving a quantitative interpretation to an assumed causal system. By doing this analysis, Sears discovered that:

- An employee's understanding of the connection between his work and the company's strategic objectives would have a positive impact on his work performance.
- An employee's attitude towards the job and towards the company had the greatest impact on the employee's loyalty and customer service than all the other employee factors combined.

This became the starting point the Employee-Customer-Profit Chain. By measuring the improvement in employees' attitudes about the job or about the company, or any of the other drivers identified, Sears could predict the improvement in revenue growth. For example, a 5% improvement in employee attitudes will result in a 1.3% increase in customer satisfaction resulting in a .05% improvement in revenue growth. The change in culture to incorporate Sears Employee-Customer-Profit model translated into an increase in Sears' market capitalisation by nearly a quarter of a billion dollars and a completely successful turnaround.

This is a prime example of how PM can benefit a business and the model is very clear from the Rucci et al. (2003) paper. However it needs to be taken into account that the exercise was driven by Sears because it was in trouble. The cost of the exercise was not mentioned in the article but due to the intense effort involved, it is unlikely that an average company could afford this approach.

### **2.3.5.2 Bititci et al. at six unidentified organisations**

Bititci et al. (2004) base the starting point of their research in observations made during extensive practical work when implementing a PMS and demonstrate links between organizational culture, management styles and performance measurement.

In order to build a framework to understand the relationship between organisational culture and management style, Bititci et al. (2004) draw on previous research in the two areas. They create a model to be tested over six case studies, all starting with a power



driven culture that, as the findings show can be transformed to a more participative and consultative management style.

The interplay between organizational culture, management styles and performance measurement is a key conclusion that is reflected in the key finding being interdependency throughout the lifecycle of a performance measurement system. This is less a study into the direct financial impact of a PMS on a business but a particularly valuable study when it comes to conclusions about the level of buy-in, which is that a PMS that is used and supported by a consultative management style at all levels, leads to greater buy-in at all levels. Another benefit of a PMS is when it is used to drive continuous improvement: it can lead to significant performance improvements, which ultimately leads to what Bititci et al. (2004) refer to as an achievement culture. The results also stress the importance of approaching PM as a cross-functional issue, requiring joined-up thinking at all levels of an organization.

This case study adds to literature on PM and culture and gives insight into the links between the two subjects.

#### **2.3.5.3 Al-Najjar and Neely at British Airways**

Al-Najjar and Neely (1998) demonstrate the relationship existing between customer satisfaction and financial performance. Based on previous research Al-Najjar and Neely (1998) proposed a model putting the emphasis on a variable reflecting the attitude and behaviour of the customer, the *willingness to recommend a friend*.

The data was collected through consumer audit questionnaires (collected upon arrival) and in-flight surveys for the eight measures deemed important: Call answer time, Check-in service, Departure time, Cabin Crew Attentive, Meal Rating, Aircraft Condition, Total short/landed bags and Club Members. They found some correlations that seem logical and one that surprised everyone involved. Meal rating and check-in service had a positive influence on cabin crew service, which had the highest influence on the overall judgement but departure on time had a negative relationship with cabin crew service. This is due to the fact that the airline has a process to make up for the departure with extra service and also by informing the passengers of what is happening and why.

This case study is based on one type of survey only and is therefore limited in generalisability. It does however provide interesting insights into the business of airlines and shows that performance management can lead to some counter-intuitive findings.

#### **2.3.5.4 Feuss et al. at Lucent Technologies**

Feuss et al. (2004) based their research partly on Rucci et al. (1998) and confirmed a direct link between customer ratings of Lucent and employee ratings of Lucent. The organisation used independently designed customer and employee surveys in 21 geographically based zones. With each question in the customer survey, a question in



the employee survey was aligned and correlations were determined. The results of the correlation testing were:

- Relations between the ratings were not always strong but in any case positive.
- Geographical differences in employee satisfaction were always reflected in customer satisfaction (and vice versa).
- The cause-effect chain positively identified for all regions was "Employee satisfaction -> Employee Commitment to Customer Service -> Customer Satisfaction".
- Overall employee satisfaction (including not customer facing staff) effected customer satisfaction.

Positive correlations like these should help organisations to look beyond short-sighted redundancies that would lower employee morale and therefore also customer satisfaction, as has also been suggested by Adams and Neely (2002).

This case study takes the findings of Rucci et al. (1998) and tries to apply it to another environment. What is not taken into account (and was not necessary for Rucci et al. (1998) as they were only dealing with an organisation based in one country) is culture.

The study says that cultural differences are reflected and vary together but it does not take cultural variation as such into account, by e.g. looking at why the results vary from country to country.

#### **2.3.5.5 Epstein et al. at Browning-Ferris Industries**

Epstein et al. (2001) describe the turnaround of Browning-Ferris Industries where high customer defection rates were endangering the existence of the company. Using the Action-Profit Linkage Model the company was able to identify what exactly endangered their customer retention rates the most and thereby managed to focus on the key issues. The process involved identifying the path from perceived service dependability to customer satisfaction to reduced defection – to profit.

This approach starts with little data and estimated connections and becomes more data-driven throughout the process. Another important differentiator is the focus on specific actions, not intermediate goals that do not influence profit.

#### **2.3.5.6 Jeanes at Milliken**

Jeanes (1996) criticises the missing focus on linkage between management principles and results. At Milliken, a large US textile and chemicals manufacturing company, he was able to work with customer satisfaction data dating back to 1985, when formal customer satisfaction measures were introduced to measure how good customers really thought the company was. When running correlation analysis on Customer satisfaction, Sales turnover and profit, Jeanes identified a positive correlation with a time lag of 18 – 24 months.



This meant that after having identified this, the organisation’s management could react and work against the threatening loss of profits.

2.3.5.7 Overview on the six studies

Table 7 shows the six studies researching linkages in performance management at a glance:

Rucci et al. at Sears (1998)	
Methodology	Total Performance Indicators  Employee-Customer-Profit model
Outcome	Correlation between employee attitude - customer satisfaction - revenue growth  Turnaround of a previously doomed company
Bititci et al. at six unidentified organisations (2004)	
Methodology	Hypothesed link between organisational culture and management style validated through six case studies.
Outcome	PM systems positively influence the management style  Interplay between organizational culture, management styles and performance measurement
Al-Najjar and Neely at British Airways (1998)	
Methodology	Consumer audit questionnaires  In-flight surveys
Outcome	A well developed model that allowed managers to focus on what was important and better understanding of the issues influencing customer satisfaction
Feuss et al. at Lucent Technologies (2004)	
Methodology	Employee surveys  Customers surveys
Outcome	Employee satisfaction leads to employee commitment to customer service which again leads to customer satisfaction  Cultural differences reflected with employees as well as customers



<b>Epstein et al. at Browning-Ferris Industries (2001)</b>	
Methodology	Action-Profit Linkage Model  Estimated connections
Outcome	Correlation between employee attitude - customer satisfaction - revenue growth  Turnaround of a previously doomed company
<b>Jeanes at Milliken (1996)</b>	
Methodology	Customer perception surveys
Outcome	Customer satisfaction, Sales turnover and profit  Prediction and countermeasures

Table 7: Performance management studies

These studies provide valuable insight and help to illustrate how PM principles can be applied in practice. They highlight different considerations when implementing PM systems, such as the importance of culture, employee attitude or customer satisfaction and how they influence success. Each of these studies supports the notion of performance management leading to insights that positively influence organisational performance by challenging existing thinking and assumptions about how the businesses work.

Rucci et al. (1998) as well as Epstein et al. (2001) showed how performance management fostered a significant turnaround of an organisation previously perceived as doomed.

2.3.6 Summary

The role of PM with organisations has changed to reflect increasing complexity. Since the 1990s, the influence and update of the Balanced Scorecard has particularly influenced the field. The BSC has also evolved, placing an increasing emphasis on success maps to establish causal relationships between indicators.

Case studies show how different organisations have approached and implemented PM and the benefits and insights they have identified from doing so. More recently, emphasis has been placed on selecting the right measures and the right number of measures to allow the BSC to move from concept to reality.



2.4 Linking knowledge management and performance management

2.4.1 Introduction

This section of the literature review deals with the background and application of applying performance management principles and methods to knowledge management. First the rationale behind measuring intellectual capital (IC) is discussed, popular methods for measuring are reviewed and compared. Ethical concerns are discussed and finally empirical studies are presented to show how measuring IC can be achieved in practice.

2.4.2 The rationale behind measuring IC

Skyrme and Amidon (1998), p. 20 state that *„knowledge management is becoming a core competence that companies must develop to succeed in tomorrow’s dynamic global economy ... Senior executives want to be able to measure the effects of knowledge management but existing measures have fallen short of achieving that goal.“* In a survey by McKinsey (McKinsey, 2005) the information needs of board level directors were evaluated with outcomes that stress the need for information beyond traditional measures, as shown in the Figure 5:



Figure 5: Information needs of directors (McKinsey 2005 survey)



This survey confirms that the primary focus for directors remains financial matters reflecting short-term corporate performance but that there is the desire to expand to issues focussing on the longer term performance of the company. 70% want to know more about customers, competitors, suppliers, brand strength, etc. and more than half would like to see more on the state of the organisation such as skills and capabilities needed to realise the corporate strategy. 40% would be interested in more information on external networks, such as the nature and level of regulatory and government risk, as well as public, media, and community attitudes towards the business.

Organisations started measuring their intangible assets for a variety of reasons – initially the case study organisation in this research did so purely for the reason of justifying the investments made, but beyond that there are valid reasons behind the measuring exercise. A key reason is to recognise hidden assets and strategically develop them to achieve organisational goals. Kannan and Aulbur (2004) see further benefits of measuring IC such as the identification and mapping of intangible assets, increased innovation or increase in collaborative activities and a knowledge sharing culture as a result of increased awareness of the benefits of knowledge management. Ultimately, they argue, measuring IC creates a performance-oriented culture.

They further suggest that *“measurement of IC and knowledge management practices will result in significant benefits to the organisation that will help determine business strategy, process design as well providing competitive advantage.”* (Kannan and Aulbur, 2004, p. 390).

While these may all be results that can realistically be expected from performance management efforts it needs to be clear that the rewards cannot merely come from measuring IC but also from acting upon the results of such a measurement exercise. This requirement disqualifies some of the methods to approach measuring IC that can be found in literature, as they purely focus on measuring as such or on providing a result in monetary terms or replacement value and don't serve as a management tool.

### 2.4.3 The rationale and the methods to measure intellectual capital

According to Stewart (1997), Tobin's q was not developed as a measure of intellectual capital, but is nevertheless a good starting point to gain an understanding of the economic reasoning why it is necessary to value intellectual capital (IC). The author sees the value contribution of Tobin's q in providing the means to make the value gap visible and understandable with a very simple formula, which reflects the gap, part of which can be explained by IC.

Developed by the Nobel Prize-winning economist James Tobin, this ratio measures the relationship between a company's market value and its replacement value (the cost of replacing all assets). In the long run, this ratio will tend toward 1.00, but empirical evidence shows that it can differ significantly from 1.00 for long periods of time. For example, companies in the service industry, where intellectual capital is the key success factor, tend to have Tobin's Q ratios of 7.00 or higher, whereas firms in capital-intensive industries, noted for their large physical assets, have Tobin's Q ratios of nearly 1.00. The formula for Tobin's Q therefore is: **Market Value = q \* Asset Value.**



To understand the scope of reporting intangible assets in general, one needs to understand the potential impact intangible assets have, as described by Kaplan and Norton (2001, p.2): *"Recent studies estimated that... the book value of assets accounted for only 10 to 15 percent of companies' market values. Clearly, opportunities for creating value are shifting from managing tangible assets to managing knowledge-based strategies that deploy an organisation's intangible assets."*

Lev (2003) demonstrates by comparing the book value of S&P 500 companies (which account for 75 % of the total assets of the US economy) to their market value that there has been a big increase since the mid-1980s in the gap between what they were officially worth according to their balance sheets and their value on the stock market. The conclusion he draws is that in the overall picture between one-half and two-thirds of corporate market values reflects the value of intangible assets, which is much higher than in prior periods. A concrete example Lev (2003) offers is the purchase of a company by Cisco for \$7 billion. The company that was bought had total sales of \$15 million in its entire public existence and no other valuable physical assets.

In a knowledge driven economy, it is indispensable to measure the most important asset. The increasing interest in accounting for intangibles on balance sheets has been the result of growing concern that not accounting for them on balance sheets is producing misleading information. Supporters for a uniform accounting system for intellectual capital argue that it explains the difference between the book value and market value of companies as the mentioning of Tobin's Q clarifies.

Opponents argue that balance sheets are not designed to be speculative and that determining precise figures is highly subjective and difficult to measure. Therefore if IC is measured it is important that these measures are highly transparent and easily understandable. Marr and Spender (2004) criticise this approach in relation to KM for the lack of possibilities to find the replacement costs for knowledge assets. Also the balanced scorecard has moved on over the years to adapt to the changing focus of the economy as Mouritsen et al. (2005) describe:

The balanced scorecard has developed from performance measurement (Kaplan and Norton, 1992, 1993) through strategy implementing (Kaplan and Norton 1996a, 1997) to strategy management (Kaplan and Norton 2001). Initially, the focus was on developing new indicators in four perspectives (the financial perspective, the customer perspective, the internal business processes and the learning and growth perspective), and it gradually developed into a strategic management system oriented towards describing *"the process for transforming intangible assets into tangible customer and financial outcomes"* providing *"a framework for describing and managing strategy in the knowledge economy"* (Kaplan and Norton, 2001, p. 69).

It needs to be mentioned that Mouritsen et al. (2005) make clear distinctions between IC and BSC and regard them as two different methods to measure intangibles. There are a lot of similarities in the concepts – they are both integrated performance management frameworks, that when properly applied can help an organisation to gain competitive advantage – but in their very thorough literature review they found differences in four areas; strategy, organisation, management and indicators. Table 8 provides a comparison between the approaches as outlined by Mouritsen et al. (2005):



Area	IC	BSC
Strategy	Strategy presupposes capabilities that continually evolve slowly and incrementally, and long term. Even if there may be competition, this is not central to capabilities because they have to be developed with a perspective that outlasts customers and rivals. Firms are competitive when they have competencies that spawn unanticipated products because the real sources of advantage are to be found in management's ability to consolidate corporate wide technologies and skills into competencies.	Strategy is clearly about choosing a market position and organising the internal business processes to reach this position. First come financial targets, then the relevant customer segment, then appropriate internal processes, and then relevant learning and growth. As all is derived from competitive advantage, it is also understandable why the generic possible strategies resemble Porter's generic strategies.
Organisation	An organisation is mobilised around networks of employees and customers and is organised more from the sides and the bottom than from the top. Even if this decentring of management may be limited in practical situations, the ethos expressed by an intellectual capital approach is to make employees responsible for the firm's problems and "employability", the ability to trust employees to be empowered employees..	The balanced scorecard monitors the implementation of an analytically designed collection of processes, which are derived from the analyses of customers and competitors conducted by top management. Manoeuvrability, competencies and knowledge resources are considered relevant insofar as they are part of the infrastructure that makes the value chain supply the services.
Management	Managers craft metaphors and are missionaries. Human capital presents an image of a firm where individuals are not to wait for directions: they are seen to be self-directing.	Tight co-ordination requires anything and anybody to function according to the precise tasks they are given. Management's function is direction.
Indicators	Intellectual capital indicators are spoken for by a voice of competence management, which mobilises concerns for the structure of capabilities and the landscape of their size.	Balanced scorecard indicators talk about causality because they have been inserted into a system of causal arguments derived from an ambition to construct value chains analytically.

Table 8: Differences between IC and BSC according to Mouritsen et al. (2005)



The lack of a standard method to measure IC is currently being addressed around the globe. Beyond the issue of stock market valuation, which obviously does not apply to some organisations, especially not most professional service firms (PSFs), there are other business circumstances that require knowledge-based capital reporting (according to Rodgers, 2003), such as a company sale, merger or acquisition, the sale, purchase, or licensing of separable assets, lawsuits involving intellectual property infringement, tax liability, corporate alliances or R&D management.

Rodov and Leliaert (2002) start from double entry book keeping which is the basis of accounting systems. In this system, all transactions can be identified and tracked and provide a balance of assets and liability on the basis of historical cost. But this does not apply to knowledge, as historical cost has nothing to do with what people know and exchange and therefore is simply insufficient. As the discussion about how to measure the ROI of knowledge management or the net worth of intellectual capital has been going on for several years there are several ways to measure intellectual capital. According to Sveiby (2001) they can be divided into the following categories:

**Direct Intellectual Capital methods (DIC).** Estimate the \$-value of intangible assets by identifying its components. Once these components are identified, they can be directly evaluated, either individually or as an aggregated coefficient.

**Market Capitalisation Methods (MCM).** Calculate the difference between a company's market capitalization and its stockholders' equity as the value of its intellectual capital or intangible assets.

**Return on Assets methods (ROA).** Average pre-tax earnings of a company for a period of time are divided by the average tangible assets of the company. The result is a company ROA that is then compared with its industry average. The difference is multiplied by the company's average tangible assets to calculate an average annual earning from the intangibles. Dividing the above-average earnings by the company's average cost of capital or an interest rate, one can derive an estimate of the value of its intangible assets or intellectual capital.

**Scorecard Methods (SC).** The components of intangible assets or intellectual capital are identified and indicators and indices are generated and reported in scorecards or as graphs. SC methods are similar to DIS methods, except that no estimate is made of the \$-value of the intangible assets. A composite index may or may not be produced.

These methods offer different advantages to different audiences. In a world of hard numbers and facts, one might think those measuring the performance of KM in \$ might be the most useful for allowing top level management to understand the ROI of KM as they build on established accounting rules and can be easily communicated. But these measurements can very often not be logically validated and it is difficult to state things like "Our company's intellectual capital is worth £ 2 billion". Another important issue when considering the implementation of methods to measure intellectual capital is whether cause effect relations have been taken into account or if the results of such an IC evaluation process only state numbers that are not logically connected to each other. In an environment where costs need to be justified, measuring knowledge should always lead to providing managers with results tied to financial targets. There are, according to North (1999) only two methods, the Skandia Navigator by Edvinsson and



Malone and the Balanced Scorecard (used in the case study in this thesis) by Kaplan and Norton (1999). Another perspective is the focus on causality being morefold:

*“A direct relationship between knowledge processes and organisational performance is not explored yet. Because many factors influence the determination of the organisational performance, attempts to trace causality to any single factor such as knowledge process may be risky. In order to understand the effect of the knowledge processes on organisational performance, intermediate outcomes (for example, knowledge satisfaction or organisational creativity) may be introduced. Intermediate outcomes reflect different aspects of an organisation’s performance, both financial and nonfinancial. This incorporation may help confirm that enablers ultimately create business value.”*

Lee and Choi (2003), p. 181

This is how in this research the relationship between KM and organisational performance is researched, not via a single factor but through a framework, the knowledge scorecard. Tiwana (2002) specifically recommends the use of the balanced scorecard model to “evaluate the impact of the KM system” and suggests four steps as outlined in Figure 6:

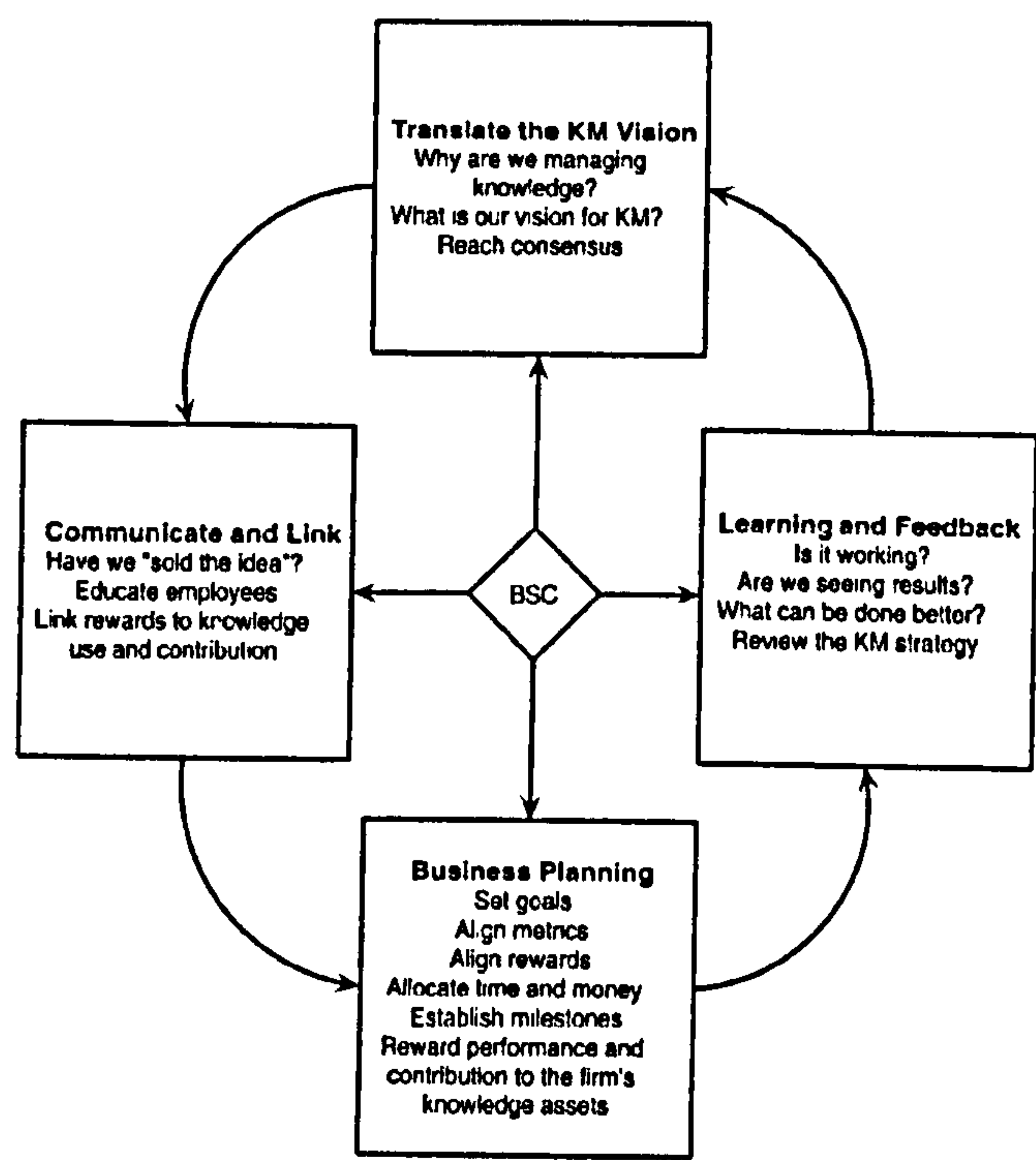


Figure 6: KM scorecard implementation development process suggested by Tiwana (2002), p. 327



As a first step, translating the KM vision by reaching a consensus as to why knowledge is being managed or needs to be managed and what the firm's vision is for KM is suggested. The result of this phase must be concrete goals and objectives. Then communicating the goals and objectives to employees and shaping a clear link to the evaluation or rewards system is the second step. Business planning means a reality check for the metrics chosen when realising the project. As a final (and reiterating) step, the scorecard must always be refined to adapt to changing needs.

Unlike the balanced scorecard (BSC), which was described in more detail already in chapter 2.3.2, the Skandia Navigator is a performance management tool focused mainly on measuring IC. The Skandia Navigator builds on the principles of the BSC approach (Roth, 2001) but takes the concept of measuring IC further.

The basis of the Skandia Navigator is the Skandia Value scheme, where Intellectual capital is defined as human capital and structural capital. Structural capital “consists of customer capital and organisational capital (information systems, databases, IT solutions or product solutions). Organisational capital can be broken down into process capital (value-creating or non-value-creating processes) and innovation capital (intangible rights, goodwill, trademarks, patents, and similar).” (Skandia, 1997)

As broken down in the figure below, the Skandia Navigator also has a chronological perspective to it as shown in Figure 7:

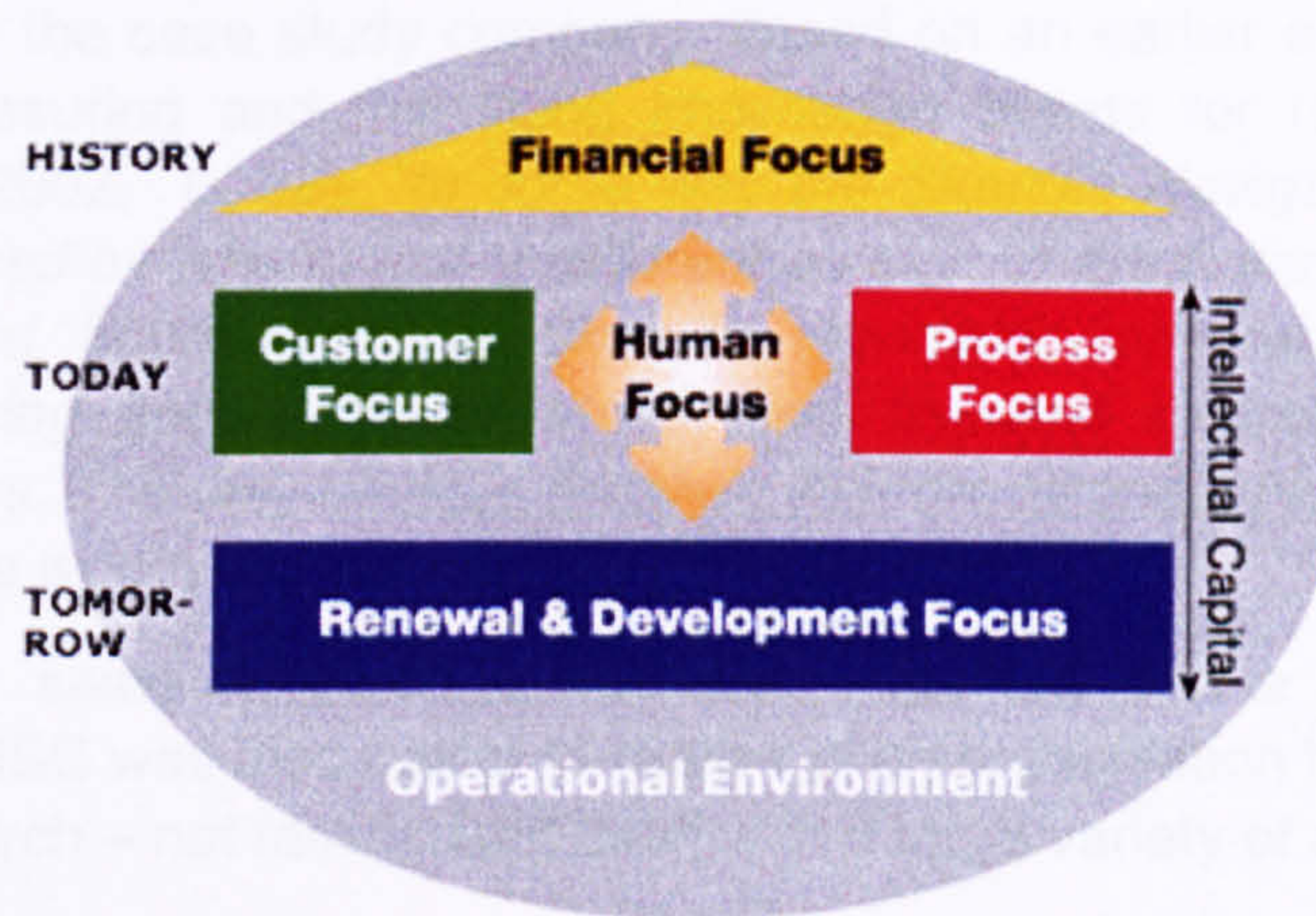


Figure 7: The Skandia Navigator (Skandia, 1997)

Skandia (1997) describes the scope and benefits of the Navigator as follows:

- The financial focus represents the company's historic achievements as documented in its annual reports.
- Within the customer focus, the company identifies performance relative to customers.
- The process focus allows for capture of effectiveness and efficiency in internal operations and supportive technologies.



- A view on capabilities, threats, changes and opportunities is given within renewal and development.
- As an intriguing and bridging element the human focus links all focus areas.
- Last, but not least, the company investigates the social, political, cultural and economic context within which it competes, within the operating environment.

When Marr et al. (2004b, p. 556) compare the BSC method with the Skandia Navigator their critique places the Skandia Navigator in second place in terms of applicability and focus: *“The classification of assets is primarily externally focused; its aim is to visualise the value of Skandia and to educate the analyst community. The Skandia Navigator is very similar to the Balanced Scorecard and is intended to function as a management tool. The problem is that all measures are eventually expressed in monetary terms and it is questionable that one can express knowledge assets in monetary terms. In the Balanced Scorecard approach there is a clear vision of how the different perspectives are related ... It is also not clear as how the five perspectives in the Skandia Navigator relate to each other.”*

The author agrees on this point of view as he considers the clear links between the perspectives in the form of the success map a key advantage of the BSC concept and the mandatory expression of non-monetary terms in monetary terms a key disadvantage of the Skandia Navigator. For this research, the BSC method had already been selected by the case study company, based on an earlier evaluation of possible methods for measuring and managing knowledge assets for reasons explained in Forstenlechner (2002, p. 28): *“In some way the Skandia Navigator is (regardless of who was influenced by whom) just a different version of the Balanced Scorecard. Just like the Balanced Scorecard, the Skandia Navigator represents a good balance between measuring knowledge assets in non financial indicators as well as the financial indicators. The only obvious problem with the Skandia Navigator is that it has not proven to be a worldwide standard.”*

According to the same research it was also expected that a more widely known concept like the BSC was also easier to realise in an organisation that had – at the time of the 2002 research – not familiarised itself with a large variety of management tools.

#### **2.4.4 Concerns regarding the reporting of intellectual capital**

According to Shaikh (2004), there is the argument among accounting professionals against the inclusion of intangibles on balance sheets because much of it is not owned or controlled by the organisation. There are also ethical concerns about including human capital on balance sheets. Salzer-Mörling and Yakhlef (2000, p. 21) argue that placing a price on individuals or quantifying the value of employees is a risk because it turns humans into just another form of capital: *“Within the pursuit of universal transparency, knowledge has fallen prey to the vocabulary and practices of accounting, being turned into an objective resource, extracted from the body it dwells, and inscribed in measurable forms which are amenable to exchange, control and deliberation.”*



However, accounting for human capital is a reality and is unlikely to be hindered by ethical concerns. The author considers the approach expressed by Salzer-Mörling and Yakhlef (2000) a very sombre perspective on the subject as the notion of human capital also transports that this capital needs to be properly managed and developed and can therefore also foster positive outcomes for those under scrutiny.

#### **2.4.4.1 Previous return on investment analysis**

Several examples of return on investment (with all the pitfalls and uncertainties discussed in previous chapters) can be found in the literature. As early as 1994, Peters (1994) wrote about a consulting firm that had created 30 practice centres that were primarily industry focused and staffed by a virtual community of consultants who provided their expertise to the rest of the firm. The aim of these electronic communities was to create a dynamic marketplace with readily available ideas and success was measured by frequency of usage of the material provided.

Extensive follow up and customer tracking provided the means to report a positive return on investment. Wright (2002) mentions a medical equipment manufacturer that invested heavily in an initiative implementing enterprise wide product development projects linking geographically dispersed teams together. The ROI was measured taking into consideration shrinking cycle times, market share and sales-per-product and offset them against infrastructure costs like technology, training and research. The Financial Times (1999) tells two stories of success:

- One in an automotive company running a programme to develop “intellectual leadership” aiming at ensuring decisions to be market-led as well as generating an environment where people could learn from their mistakes – either their own or others. A formal process to measure the results of decisions taken as opposed to expected decisions taken was helping to determine the ROI of the system.
- The second story is about a networking company that measured the ROI of their KM initiative by putting a value on streamlined work processes, reduced foreign travel and a cost decrease due to an improved hiring and integration process for new staff.

It needs to be noted that these examples are not about managing IC but about calculating the return on investment, which is hard to define in a way that makes economical sense.

#### **2.4.4.2 The role of government in measuring knowledge**

There is three relevant connections between government and measuring knowledge, introducing and measuring KM like and other organisation, fostering economic growth by applying KM principles and accounting standards:



*Introducing or improving KM within the government branches to benefit from KM.* Most of the ministries and departments for example in the UK have some kind of internal KM in place by now but what is published about this allows the conclusion that they all lack a full strategy for KM and are technologically behind the private sector. Jonssen et al. (2003) describes how authorities in Scandinavia are working on regeneration projects in rural regions by investing in distance learning, linking people living in the countryside with tutors and universities for post graduate education without the need to relocate. This is a very similar approach to the UK's department for rural affairs (DEFRA) Countryside Alliance project.. Two initiatives, one in Sweden and one in Norway have been reviewed with a positive result. Van der Sijde and Groen (2003) report on a project with similar focus in the Netherlands, where banks have been encouraged to take into account intangible assets when looking into possible business loans to entrepreneurs in the Dutch countryside.

*Fostering economic growth by encouraging knowledge transfer.* Examples for this are the DTI's "Prosperity for all" programme (Hewitt, 2005) as well as the Lambert Review focussing on exchange of know-how between business and universities. Also, as outlined earlier in this chapter, Gordon Brown emphasised the importance of the knowledge economy and the efforts to strengthen it in his 2005 budget speech (Financial Times, 2005).

*Working on accounting standards for intellectual capital that could in the future be used for taxation.* Examples in the UK for this are the DTI's "Accounting for people" project as well as the FSA's ongoing ventures into making knowledge "reportable". There have also been significant initiatives on a European level: According to Bukh and Johanson (2003) as well as Marr et al. (2003) two initiatives addressed the reporting of intellectual capital on a European level, most notably the MERITUM guidelines and its follow-up project E\*Know Net (both sponsored by the EU and the Organisation for Economic Co-operation and Development) as well as a Danish initiative on intellectual capital statements sponsored by the Danish government.

Commonalities between the three initiatives are identified by Bukh and Johanson (2003) who see two main objectives, to develop a new language, which can help external parties like banks, policy makers, investors, financial analyst's etc., to understand the IC process and as a second objective, the ambition of the projects is to help firms to manage the IC process.

Marr et al. (2003) refer to the fact that based on best practices observed in more than 100 European companies, the projects have resulted in guidelines on how to report intellectual capital. Although the guidelines vary slightly in content and terminology, the underlying ideas are the same. Organisations are encouraged to produce reports that contain narratives about the company vision, management challenges and actions and a set of indicators.

An important recommendation coming out of these projects is the call upon companies to start publishing an additional supplement to the annual report which is referred to as a so-called intellectual capital statement. Overell (2005) reports that the Accounting for people initiative inspired CMS Cameron McKenna (a large law firm) to report for the first time on their human capital, thus potentially setting a precedent for other law firms to follow.



### 2.4.5 Previous empirical studies on performance & KM

According to Lee and Choi (2003) previous empirical studies into KM can be classified into four categories

1. Relationships between knowledge enablers;
2. Relationships between knowledge enablers and process;
3. Relationships between knowledge process and organisational performance;
4. Relationships among knowledge enablers, processes, and organisational performance.

The fourth category is the most interesting one for the author: the studies on relationship between enablers and performance. The author went back to the papers suggested by Lee and Choi (2003) under category 4 to compare them to this thesis as well as learn from the methodologies applied.

#### 2.4.5.1 Bierly and Chakrabarti on US pharmaceutical companies (1996)

Based on the knowledge-based view on firms, Bierly and Chakrabarti (1996) researched the performance differences over a fifteen year period among firms resulting from different knowledge bases and differing capabilities in developing and deploying knowledge. Within the US pharmaceutical industry they defined four main types of knowledge strategies applied and researched the effect of the strategy used on profits:

1. Explorers are defined as radical learners with a good balance of internal and external learning and a focus on achieving high R&D output with small very targeted investments and low science linkage.
2. Exploiters are defined as spending the lowest amount among their peers on R&D but focussing on a strong science linkage. Their focus is on external learning.
3. Loners are defined as those spending the most on R&D and the lowest amount among their peers on science linkage.
4. Innovators are the fastest learners and highest spenders on both, R&D as well as science linkage. They are very efficient in acquiring knowledge.

The study found that knowledge management strategies are linked to higher profits for innovators and explorers while exploiters and loners can be found in the lower profit range. Citing examples in other industries such as 3M for innovators, Compaq for exploiters, Netscape for explorers and Kodak for loners, they claim the results can also be applied to other industries beyond pharmaceutical. Compared to this thesis, this research applies less detail and gives more general guidance on knowledge strategy.



2.4.5.2 Simonin on 1000 public and privately owned US companies (1997)

Using publicly available data on a random set of 1000 public and privately owned companies, Simonin (1997) set out to test three hypotheses:

- 1. Firms with higher levels of collaborative know-how will achieve higher levels of tangible benefits from collaboration.
- 2. Firms with higher levels of collaborative know-how will achieve higher levels of intangible benefits form a collaboration.
- 3. Firms with greater collaborative experience will achieve higher levels of collaborative know-how.

The outcome of the study is that when experience form collaboration is internalised, it aides in the process of selecting partners for future collaborations which in turn impacts performance as the know-how can be applied to guide future actions. Simonin (1997) thereby confirms and disconfirms several previous studies cited in his study and closed a gap between the internalisation of know-how and its impact on performance. Compared to this thesis, Simonin (1997) is more general in terms of industry (mixed) and his findings are specific to the topic of collaboration.

Table 9 shows the two studies discussed in comparison:

Author / Organisation	Methodology
Bierly and Chakrabarti on US pharmaceutical companies (1996)	Return on Sales (ROS)
	Return on assets (ROA)
	Outcome
Simonin on 1000 public and privately owned US companies (1997)	Certain knowledge management strategies are linked to higher profits (what they refer to as innovators and explorers) while others (exploiters and loners) are linked to lower profits
	Methodology
	Publicly available data and interviews
	Outcome
	The way experience from collaboration with other organisations is internalised influences the performance of an organisation.

Table 9: Summary of case studies researching effect of KM on organisational performance



### 2.4.6 Summary

The need to measure knowledge is arising from changing conditions in the means of production and in a changing definition of what adds value. A paradigm shift regarding the importance of different means of production towards an environment in which knowledge becomes more important also requires the adoption of methods to manage measure the “new” means of production. Although there have been some empirical studies on performance and KM, these lack detail and applicability to PSFs and tend to provide general guidance only but little specific contribution around the research questions of this thesis. Existing studies focus on high level analysis of multiple companies while this thesis aims to look into further detail and causality linking KM directly to organisational performance. Among the multiple methods to measure and manage intellectual capital, the balanced scorecard approach was chosen for reasons discussed in section 2.4.3.

The main attempts thus far to measure and manage knowledge were based on ROI calculations or direct value statements in monetary terms (e.g. the Skandia Navigator), which the author considers too inconcrete in their results and other methods generally lacked the important aspect of success maps.

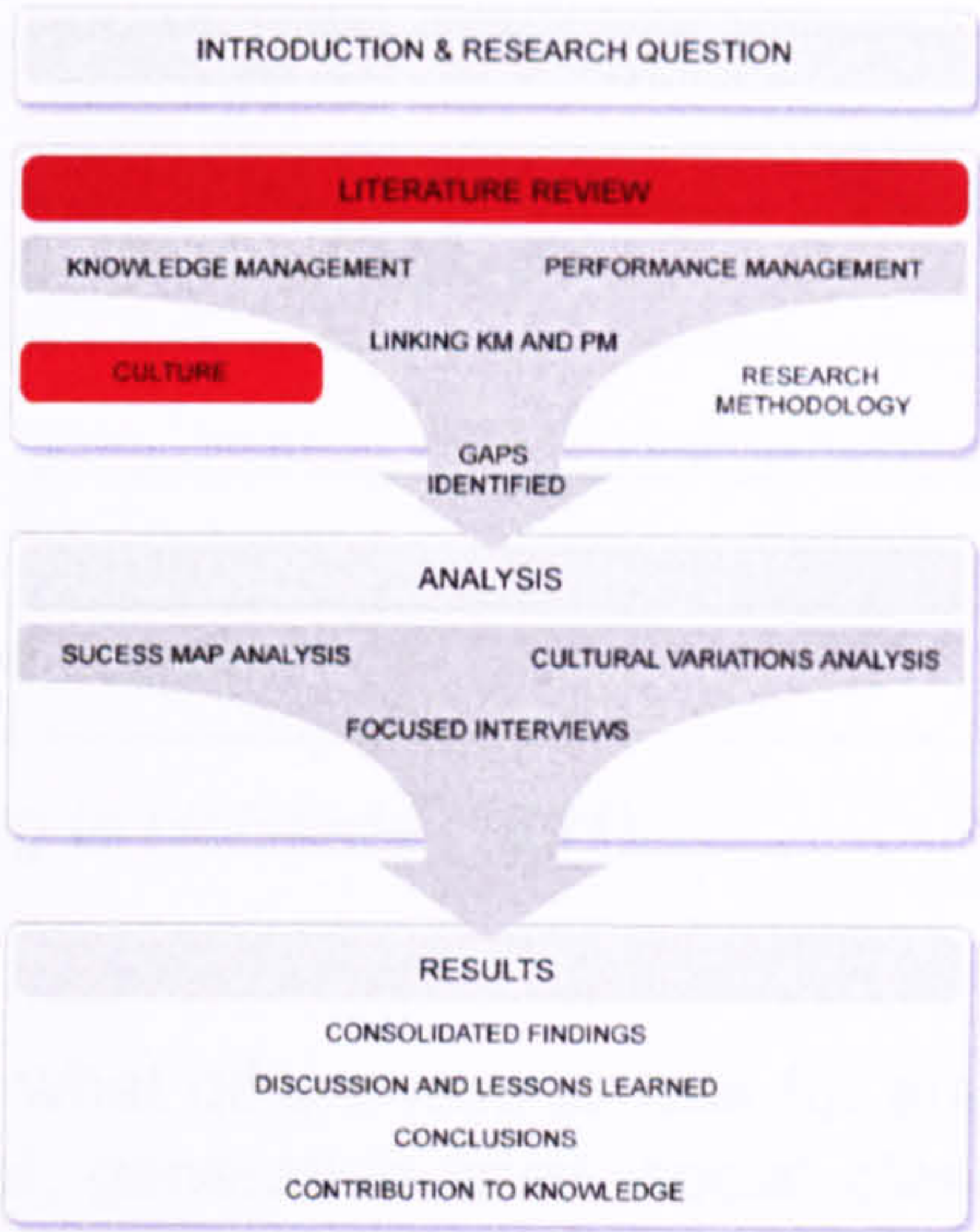
There is a need to understand how KM can be measured and therefore to provide a clearer link between KM and PM.



2.5 Culture

2.5.1 Introduction

PM and IC literature has alluded to culture being important (Ford and Chan, 2003; Tschida, 2004; Robbins, 2003; Bititci et al., 2004; Schulz and Klugmann, 2005, Pauleen and Murphy, 2005, McDermott and O'Dell , 2001) and culture may also be an issue in this research as the case study organisation is an international law firm with offices in 15+ countries. A review of literature on culture is therefore presented in this section.



2.5.2 The term culture

The simplest and least elaborate definition of the word culture is “*The way we do things around here*” (Deal and Kennedy, 1982, p.4), but there is much more to it.

Schein (1985, p. 6) claims that the term culture “...*should be reserved for the deeper level of basic assumptions and beliefs that are shared by members of an organisation, that operate unconsciously, and that define in a basic “taken-for-granted” fashion an organisation’s view of itself and its environment. These assumptions and beliefs are learned responses to a group’s problems of survival in its external environment and its problems of survival.*” Schein (1985) also suggests that culture may be explained as having different levels that can be sliced by increasing or decreasing visibility and awareness, such as unconscious behaviour having low visibility and technology high visibility.

Being quoted in most of the papers the author looked at for a definition of culture, the author found Hofstede’s (1980) definition particularly useful. He says that culture can be defined as the collective programming of the mind which distinguishes the members of one group or category of people from another. When working at IBM as a psychologist, Geert Hofstede conducted a survey across subsidiaries of IBM. He designed and managed more than 116,000 employee interviews within IBM. The survey covered employees in 72 national subsidiaries, 38 occupations, 20 languages, and at two points in time: around 1968 and around 1972. The questionnaire covered more than 100 standardised questions. (Hofstede, 2003, p. 251) The survey results led to a definition of 4 dimensions. A fifth dimension was added later on. These five dimensions are discussed further below. According to Ford and Chan (2003), before 1980, many researchers as well as practitioners considered organisational culture to be independent of national culture and Hofstede was the one who broke this barrier by arguing that an organisation’s culture is nested within a national culture, drawing the conclusion that therefore, higher emphasis should be placed on the role of national culture influencing human resource practices and organisational behaviour.

The author has used Hofstede’s model of manifestations of culture as well as the layers of culture which are explained in more detail in section 5.2 and only outlined in this chapter. Table 10 indicates what a manifestation of culture means to Hofstede:



Manifestation of culture	
Symbols	Words, gestures, pictures (e.g. jargon, flags, etc.)
Heroes	Role models
Rituals	Social necessities
Values	The core of culture (e.g. good or evil)

Table 10: Manifestation of culture according to Hofstede (1991)

Layers of culture are meant to be an aid in imagining what differences to look for and include national culture, regional culture, gender level, generation level, social class level etc. Dimension models are a good way to make the term culture more tangible. The author looked at the two main models, Hofstede and Trompenaars.

2.5.2.1 Hofstede’s dimension model

Hofstede’s most important contribution to the academic discussion on culture (and the most referenced in the articles found) is his dimension model, which is described in Table 11:

Cultural dimension	Definition
Power Distance (PDI)	PDI is the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally. Cultures that are high in Power Distance are illustrated by decisions being made by superiors without consultation with subordinates (and subordinates preferring this practice), and employees being fearful of disagreeing with their superiors (Hofstede, 1980); whereas cultures that are low in Power Distance will have a more participative and egalitarian relationship between superiors and subordinates (Ford et al., 2003).
Individualism/Collectivism (IDV)	An individualist culture is one in which the ties between individuals are loose, and they value personal time and personal accomplishments. On the other hand, a collectivist society finds people integrated into strong, cohesive groups, and values the group’s well-being more than individual desires; the belief is that it is best for the individual if the group is cohesive (Hofstede, 1980; Ford et al., 2003).



Uncertainty Avoidance (UAI)	Uncertainty Avoidance is the extent to which the members of a culture feel threatened by uncertain or unknown situations, and is the third dimension, measured from weak to strong. Uncertainty Avoidance is 'related to anxiety, need for security, and dependence upon experts' (Hofstede, 1980, p 110). A culture that is high in Uncertainty Avoidance would exhibit a rule orientation, prefer employment stability, and exhibit stress as the members of the culture try to explain, mitigate, and minimise the uncertainty that is inherent to life (Hofstede, 1980) (Ford et al., 2003).
Masculinity/Femininity (MAS)	When Masculinity–Femininity is applied to the national culture as a whole, the gender role view (social role for the different sexes) is the appropriate interpretation. However, when the Masculinity–Femininity dimension is applied to the workplace, the following interpretation is appropriate: 'Masculine countries stressed pay security, and job content; feminine countries stressed relationships and physical conditions (Hofstede, 2001, p 313) (Ford et al., 2003).
Long-Term Orientation (LTO)	Long-Term Orientation cultures value virtues oriented toward future rewards, in particular perseverance and thrift. Short-Term Orientation stands for the fostering of virtues related to the past and present, in particular, respect for tradition, preservation of 'face', and fulfilling social obligations (Hofstede, 1980, cf. Ford et al., 2003).

Table 11: The definitions of Hofstede's cultural dimensions

The work of Hofstede is probably the most popular work in the arena of cultural research. Although the work provides a relatively general framework for analysis, the framework can be applied easily to many everyday intercultural encounters. It is particularly useful, as it reduces the complexities of culture and its interactions into five relatively easily understood cultural dimensions that – in the context of this research – can be tested against data from the case study organisation.

The one perspective the author does not consider appropriate is the Masculinity/Femininity (MAS) as he feels it uses very biased definitions of what is masculine and what is feminine and applies these to countries or other layers of culture. The author does not believe this can be done in such a general way and that before describing a characteristic in a gender related way, it would first need to be researched and supported by evidence that a certain characteristic can be attributed to a gender beyond simple prejudice.

Table 12 is listing the Power Distance Index for selected countries, in which the case study organisation has an office in, and shows significant differences:



Country	PDI	IDV	MAS	UAI	LTO
Austria	11	55	79	70	
Germany	35	67	66	65	31
United Kingdom	35	89	66	35	25
Netherlands	38	80	14	53	44
United States	40	91	62	46	29
Japan	54	46	95	92	80
Spain	57	51	42	86	
France	68	71	43	86	
Hong Kong	68	25	57	29	96
China	80	15	55	40	114

Table 12: Power Distance Index in selected countries relevant to this case study

In more tangible examples, what this table suggests, is that according to Hofstede e.g. in France (PDI 68) decisions are more likely to be taken without consultation of the subordinate than e.g. in the UK (PDI 35) or that in terms of uncertainty avoidance in the UK (UAI 35) rules in the work environment would not be as predominant as in France (UAI 86). Other factors affecting an organisation's culture were identified by Wilson (2002, pp. 359-62). These included:

- The business environment, including the traditions of the industry, and the market environment.
- Leadership (in young organisations).
- Management practices, including recruitment, and the formal socialization process that includes induction training, the use of groups, and reward systems.
- The informal socialisation process, through which organisational "myths, stories and legends" are passed on to new employees.

Further research by Hofstede identified six independent dimensions of practices in organisations:

- process-orientated versus results-orientated;
- job-orientated versus employee-orientated;
- professional versus parochial;
- open systems versus closed systems;
- tightly versus loosely controlled; and
- pragmatic versus normative.



### 2.5.2.2 Cultural differences according to Hofstede (2003)

Hofstede (2003) sees manifestations of culture as the skins of an onion, indicating that symbols represent the most superficial and values the deepest manifestations of culture, with heroes and rituals in between. Figure 8 illustrates Hofstede's understanding of the cultural "onion":

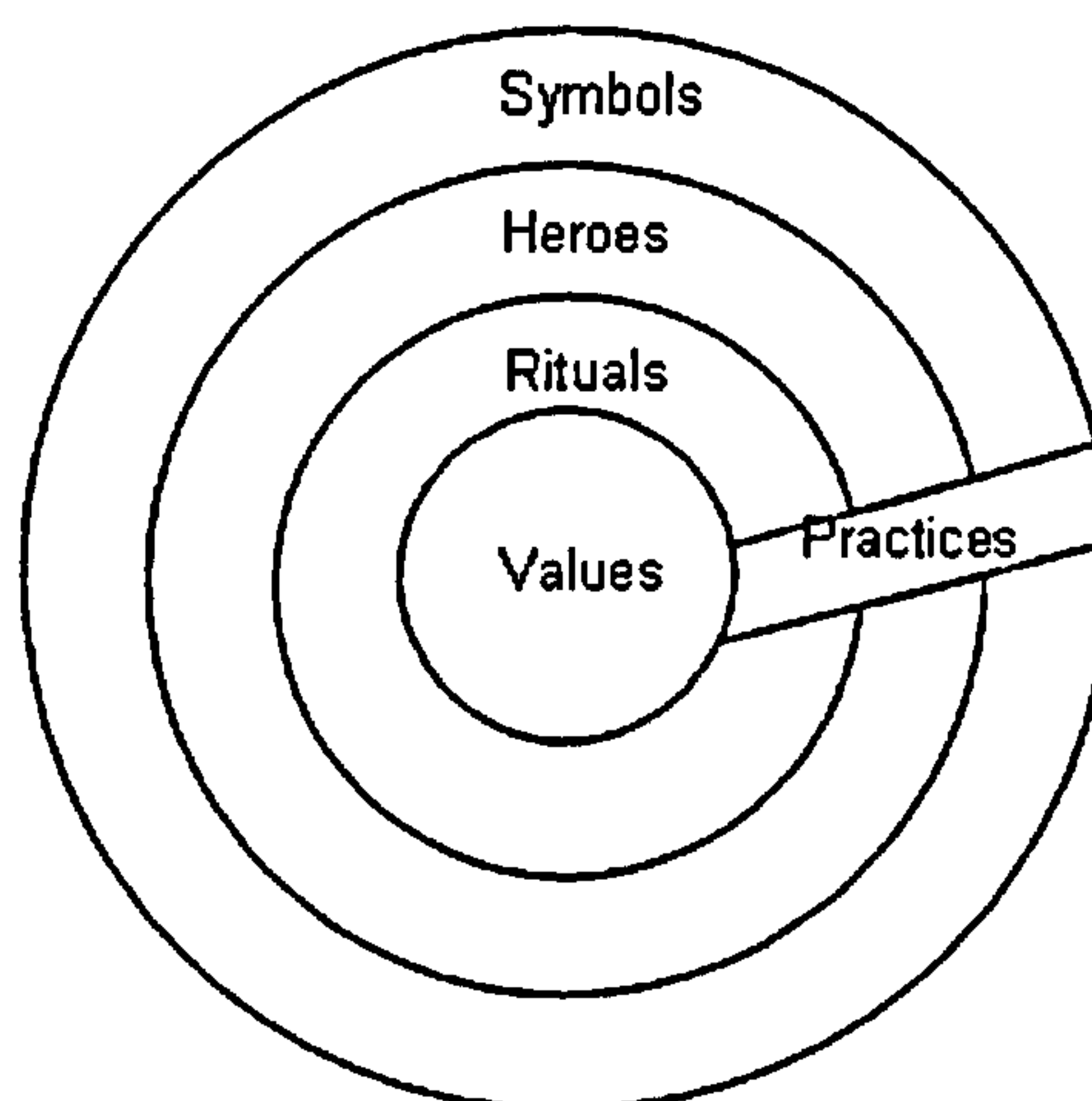


Figure 8: The "onion diagram" (Hofstede 2003)

*"Symbols are words, gestures, pictures or objects that carry a particular meaning which is only recognised by those who share the culture. The words in a language or jargon belong to this category, as do dress, hairstyles, Coca-Cola, flags, and status symbols. New symbols are easily developed and old ones disappear."*

Hofstede (2003), p.7

Hofstede believes that symbols are easily transferable from one group to another and that they are even regularly copied by others. Therefore he has put them into the outer, most superficial, layer.

The second layer is heroes. It deals with "persons, alive or dead, real or imaginary, who possess characteristics which are highly prized in a culture, and who thus serve as models for behaviour." According to this definition there are numerous heroes in each society or country. Even one person may have several heroes who act as a model for their own way of life. (Hofstede, 2003, p.7)

"Rituals are collective activities, technically superfluous in reaching desired ends, but which, within a culture, are considered as socially essential: they are therefore carried out for their own sake." Hofstede (2003) mentions "ways of greeting and paying respect to others, social and religious ceremonies" as examples. Symbols, heroes, and rituals can be subsumed under the term "practices". "As such, they are visible to an outside observer; their cultural meaning, however, is invisible and lies precisely and only in the way these practices are interpreted by the insiders." (Hofstede, 2003). After looking at the three outer layers – or practices – there is still one important thing missing in order



to describe culture: values that are the core of culture. "Values are broad tendencies to prefer certain states of affairs over others. Values are feelings with an arrow to it: they have a plus and a minus side. They deal with: evil vs. good, dirty vs. clean, ugly vs. beautiful, unnatural vs. natural, abnormal vs. normal, paradoxical vs. logical, irrational vs. rational." According to Hofstede, values are somewhat implicit and hard to reach. Therefore they cannot be discussed, "nor can they be directly observed by outsiders. They can only be inferred from the way people act under different circumstances." It can be concluded that they are difficult to change. Another thing is that values are formed in the very beginning of life. *"Values are among the first things children learn – not consciously, but implicitly... Because they are acquired so early in our lives, many values remain unconscious to those who hold them."* Hofstede (2003, p.8)

Every person can have many different layers of cultures, which is one reason why it is hard to discuss and compare cultures. Hofstede (2003, p.10) names six layers, while admitting that *"additions to this list are easy to make"*:

- a national level
- a regional and/or ethnic and/or religious and/or linguistic affiliation level
- a gender level
- a generation level
- a social class level
- an organisational or corporate level (for those who are employed)

Which of these layers are applicable to this research will be discussed in section 5.2.

### 2.5.2.3 Trompenaars' dimension model

Similar to Hofstede, Trompenaars also relates that every culture has *"a limited number of general, universally shared human problems (that) need to be solved" and that "one culture can be distinguished from another by the specific solutions it chooses for those problems."* (Trompenaars, 2003, p. 26). Another common approach is that the same attitude concerning common problems each culture has and that they believe that the way each culture handles its problems is a main criterion for cultural variations. But while Hofstede based his research initially on the findings of Inkeles and Levinson, Trompenaars uses the work of anthropologists F. Kluckhohn and F. L. Strodtbeck (1961) as a basis. Kluckhohn and Strodtbeck have identified five categories of problems, which Trompenaars (2003, p. 26) describes in the following manner:

1. "What is the relationship of the individual to others? (Relational orientation)
2. What is the temporal focus of human life? (Time orientation)
3. What is the modality of human activity? (Activity orientation)
4. What is human being's relation to nature? (Man-nature orientation)
5. What is the character of innate human nature? (Human nature orientation)"



Trompenaars proposes to “look at these problems under three headings: those which arise from our relationship with other people; those which come from the passage of time; and those which relate to the environment.” (Trompenaars, 2003, p. 8). Fons Trompenaars uses seven dimensions to describe cultural differences.

Table 13 is based on Trompenaars (2003, p.8ff):

Cultural dimension	Definition (from Trompenaars, 2003, p. 8ff)
Universalism vs. Particularism	In particularist societies <i>“greater attention is given to the obligations of relationships and unique circumstances... less attention is given to abstract societal codes”</i> . The universalist approach rather says that <i>“what is good can be defined and always applies”</i>
Individualism vs. Communitarianism	Individualism vs. Communitarianism deals with two major questions: <i>“Do people regard themselves primarily as individuals or primarily as part of a group?”</i> and <i>“Is it important to focus on individuals so that they can contribute to the community as and if they wish, or is it more important to consider the community first since that is shared by many individuals?”</i>
Neutral vs. Emotional	<i>“Should the nature of our interactions be objective and detached, or is expressing emotion acceptable?”</i>
Specific vs. Diffuse	<i>“When the whole person is involved in a business relationship there is a real and personal contact. In many countries a diffuse relationship is not only preferred, but necessary before business can proceed.”</i>
Achievement vs. Ascription	In an achievement society <i>“you are judged on what you have recently accomplished and on your record.”</i> Whereas in an ascription society <i>“status is attributed to you, by birth, kinship, gender or age ...”</i> Connections and the educational background are also important in such societies.
Attitudes to Time	Attitudes to time deal with the importance of past, present and future.
Attitudes to Environment	<i>“Some cultures see the major focus affecting their lives and the origins of vice and virtue as residing within the person. Here, motivations and values are derived from within. Other cultures see the world as more powerful than individuals. They see nature as something to be feared or emulated.”</i>

Table 13: Trompenaars dimension model



2.5.3 Comparing the two models

Hofstede as well as Trompenaars both provide dimension models that could be used to research culture in the case study organisation. Table 14 sums up the key characteristics that were taken into account when deciding upon which model to use for this thesis:

Characteristic	Hofstede	Trompenaars
Coverage	Power Distance Individualism/Collectivism Uncertainty Avoidance Masculinity/Femininity Long-Term Orientation	Universalism/Particularism Individualism/Communitarianism Neutral vs. Emotional Specific vs. Diffuse Achievement vs. Ascription Attitudes to Time Attitudes to Environment
Data availability within case study organisation	60% (3 out of 5 dimensions)	14% (1 out of 7 dimensions)
KM related case studies	Yes	No
Author's perception	Very clear and business relevant topics	More "soft" and society related topics

Table 14: Comparing the two models

The author found Trompenaars' model more comprehensive and appealing for its very people centred approach but decided it to be more suitable for studies in anthropology than for research into organisational performance. The author decided to use Hofstede for three reasons:

- 1. It is more suitable due its business centred approach rather than a society centred approach.
- 2. The model has been used successfully before for a case study within the case study organisation (Tschida, 2004) as well as beyond (Ford and Chan, 2003)
- 3. Data availability within the case study organisation was better than for the Trompenaars model. 3 out of the 5 dimensions of Hofstede could be supported with data and only 1 out of the 7 dimensions of Trompenaars.

Nevertheless this chapter provided an overview on both models for reasons of completeness and also as a possible guidance for future research.



### 2.5.4 Knowledge management and culture

Gold et al. (2001) argue that organisational culture is the most significant hurdle to effective KM and therefore shaping culture is central to the firm's ability to manage knowledge effectively. Ford and Chan (2003) and Tschida (2004) also emphasise the importance of culture as an enabler for KM but also as the means to acquire different perspectives on knowledge. Pauleen and Murphy (2005, p. 21) add to this that not only the processes around KM are influenced by culture but even the very basic definitions: *"Culture affects the very concept of knowledge – what counts as knowledge in the first place and the degree of certainty ascribed to it"*. McDermott and O'Dell (2001, p. 84) identified one particularity of companies said to have a culture supportive of knowledge sharing: During the implementation of KM these companies did not try to change culture and make it more KM friendly, but they built their KM around existing corporate culture: *"We found that overcoming 'cultural barriers' to sharing knowledge has more to do with how you design and implement your KM effort than with changing your culture. It involves balancing the visible and invisible dimensions of culture; visibly demonstrating the importance of sharing knowledge and building on the invisible core values"*.

To be successful, McDermott and O'Dell (2001) arrive at the conclusion that every organisation needs to focus on five key issues:

- To create a knowledge sharing culture, make a visible connection between sharing knowledge and practical business goals, problems or results.
- It is far more important to match the overall style of your organisation than to directly copy the practices developed by other organisations. To make knowledge sharing a natural step, think how effective change happens in your organisation.
- Link sharing knowledge to widely held core values.
- Human networks are one of the key vehicles for sharing knowledge. To build a sharing culture, enhance the networks that already exist. Enable them with tools, resources and legitimisation.
- Recruit the support of people in your organisation who already share ideas and insights. Ask influential people and managers to encourage and even pressurise people to share their knowledge. Build sharing knowledge into routine performance appraisal.

This supports what Wilson (2001, p. 363) believes: That part of what is claimed to be cultural change in organisations is unreal change with the underlying organisational values remaining unchanged and resulting in short term benefits only: *"Change may come about by getting employees to re-examine the assumptions they hold. The role of management is to identify and manipulate the culture-influencing factors that will motivate employees to re-examine and potentially change their own assumptions and values. In addition, managers are part of a company's culture and therefore their own values and assumptions need to be reviewed. Overall, managers and their activities may therefore only act as catalysts for change rather than dictators of change"*



The author has identified two case studies which have successfully applied the cultural dimension model to knowledge management, one by Ford and Chan (2003) in the manufacturing sector and one by Tschida (2004) within a global law firm. Table 15 discusses the characteristics of these two studies:

Description	Ford and Chan (2003)	Tschida (2004)
Method	interviews, site observation, and the collection of company documents	interviews, project work, and the collection of company documents
Focus	Subsidiary of a Japanese company in the US	Global law firm
Research question	1. How does national culture relate to knowledge sharing and flow within an international subsidiary?  2. How does knowledge sharing across cultural groups differ from knowledge sharing within cultural groups within the subsidiary?	1. Analyse the impact of cultural differences on the acceptance and development of knowledge management products and services.
Model used	Hofstede	Hofstede
Feedback on Model	Confirmed with slight suggestions for improvement	Confirmed

Table 15: Case studies comparison Ford and Chan (2003) and Tschida (2004) (both using Hofstede)

Ford and Chan (2003) conclude that language barriers are a key issue and see different degrees of formal and informal networks existing in different cultures. The Power Distance difference leads to different routes on how to seek solutions for problems, e.g. Japanese were more likely to consult with the CEO or parent company whereas Americans would rather seek support from colleagues, while generally the degree of formality is lower within a cultural group. Tschida (2004) finds that cultural differences have a major impact on the acceptance and development of knowledge management products and services and warns that Hofstede's Power Distance Index needs to be taken into account when taking management decisions in relation to KM.

Both studies have successfully applied the Hofstede model, one of which has taken place in the organisation under research in this thesis, which was one of the reasons why the author decided to use this model as guidance in helping to interpret the results. One point that Tschida (2004) makes about this organisation is that focus needs to shift on “doing” KM that is adjusted to local needs, similar to the recommendation by Pauleen and Murphy (2005, p. 21): *“Information and knowledge management models*



*that exclude the influence of national and regional culture seriously undercut their potential effectiveness.”*

Pauleen and Murphy (2005) expand on this subject and argue that too little attention in information and knowledge management (IKM) is paid on national and regional culture on any type of system, be it databases, expert systems, decision and executive support systems or any other collaboration system. They argue that the value in all these things is cultural bias as they suggest that new biases generate new breakthroughs.

### **2.5.5 Suitability of the Hofstede approach in this context**

An important issue is how corporate culture can successfully link to national culture, how this big step can be taken without ignoring the logic of the fact that an organisation no matter how diverse cannot entirely reflect the country it is based in. For most of the time of this research, the author worked in the London office and at least half of his colleagues were “foreigners”, too. Hofstede (2003, p. 252) concludes: *“Comparing IBM subsidiaries ... shows national culture differences with unusual clarity.”* Hofstede concedes *“IBMers do not form representative samples from national populations ... however, samples for cross-national comparison need not be representative, as long as they are functionally equivalent.”* (Hofstede, 2003, p. 251) but at the same time *“Employees of multinational companies ... form attractive sources of information for comparing national traits, because they are so similar in respects other than nationality: their employer (with its common corporate culture), their kind of work, and – for matched occupations – their level of education.”* (Hofstede, 2003, p.251) As a consequence Hofstede (2003, p. 252) states: *“The only thing that can account for systematic and consistent differences between national groups within such a homogenous multi-national population is nationality itself – the national environment in which people were brought up before they joined this employer.”* In addition to that, Hofstede (2003, p. 253) emphasises that he does *“not compare individuals, but ... central tendencies in the answers from each country.”*

For this research the author sees Hofstede’s approach as the possible means to look beyond measured results with the aim to confirm or disconfirm the existence of national or corporate culture having an influence on measured performance.

### **2.5.6 Summary**

This section reviewed dimension models to understand culture and laid the foundation for the contextual analysis of the cause and effect model researched in this thesis. There are two main dimension models, by Hofstede and Trompenaars. As discussed in section 2.5.3 the author has chosen to work with the Hofstede model for reasons of applicability to the corporate environment, previous successful studies and better availability of data for the Hofstede dimensions.



## 2.6 Gaps identified for this research

As shown in the previous chapters, existing literature is strong on aspects around the core topics of this research but lacking in some areas relevant to applying performance management to the business of KM in law firms. Below is a list of selected sources used throughout the literature review as well as their key topics.

Literature is well developed about the key concepts of knowledge management (KM) as can be seen in Nonaka (1994), Nonaka and Takeuchi (1995) or Davenport and Probst (2001). The concept of intellectual capital (IC) is also well researched in theory by Wright et al. (2001), Marr et al. (2004) as well as in its practical application (Edvinsson, 1997; Marr et al., 2004).

The second key topic of this research, performance management (PM) is also well researched in terms of its development (Johnson, 1972; Wilcox and Bourne, 2002) as well as theory and application (Kaplan and Norton, 2001; Marr, 2004).

The necessity to combine the two subjects is explained in detail by Lev (2003) or Stewart (1997), while for example Sveiby (2001) describes the methods that can be used to measure intellectual capital.

Tiwana (2002) as well as Horvath (1999) or Arveson (1999) see the Balanced Scorecard (BSC) as an ideal tool to measure and manage knowledge. The BSC itself is discussed in more detail by Kaplan and Norton (1992, 1993, 1996abc, 1997, 2001, 2004), Marr (2004) and by Neely and Bourne (2000), who focus on the core part of the BSC, the success map.

**Neither theoretical evidence nor case studies could be found however on the topic of success maps entirely focussed on knowledge management and its impact on organisational performance.**

Several case studies provide additional insight into the benefits of measuring performance in general (Rucci et al., 1998, Bititci et al., 2004 or Al-Najjar and Neely, 1998) as well as in relation to KM (Bierly and Chakrabarti, 1996; Simonin, 1997).

KM in law firms is discussed in terms of implementation (Rusanow, 2003; Schulz and Klugmann, 2005) and first empirical research is available from Disterer (2005) or value statements based on anecdotal evidence (Broady-Preston and Tegwen, 2004).

**No case study could be found that holistically looks at measuring the KM function of law firms or professional service firms.**

**No empirical evidence could be found for the impact of KM on the business performance of law firms or professional service firms and no clear evidence is provided as to how to foster knowledge sharing in law firms.**

Another topic important to this research is culture, which is well researched in terms of explaining culture by use of dimension models (Hofstede 2001, 2003 or Trompenaars, 2003) as well as in relation to KM (Ford and Chan, 2003; Tschida, 2004, McDermott and O'Dell, 2001).

**Neither empirical evidence nor model could be found looking at the relationship between national culture and KM.**



Several researchers address the topics that are under researched in relation to the field of measuring KM: Martin (2004), p.80 states that *"It is interesting that even those people at the forefront of developments in knowledge metrics concede that the practice is still at an experimental phase and that much more needs to be done to implement these metrics outside of the originating organisations."*, while Darroch (2005) sees little empirical support for the role of knowledge management in firms and the relationship between managing knowledge and organisational performance.

### 2.6.1 Issues arising and how they link to the research questions

From the summary of literature, there appear to be a number of issues that remain under researched and the author therefore decided to focus on these:

1. Success maps for KM

No success map to measure and manage KM has been found during the literature review that was based on analytical evidence.

2. Framework to measure the impact of KM in PSFs

No literature could be found on a framework to measure the impact of KM in PSFs or how to motivate lawyers to contribute to KM in the first place.

3. Measuring KM in law firms

No literature could be found on a scorecard or comparable model for measuring the impact of KM in law firms.

4. Impact of national culture on KM

No empirical research could be found looking at the relationship between national culture and KM.

This analysis of gaps helped in narrowing down the research questions to the final set of questions:

Within the context of the knowledge management function of an international professional services firm, the research questions are:

1. Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?

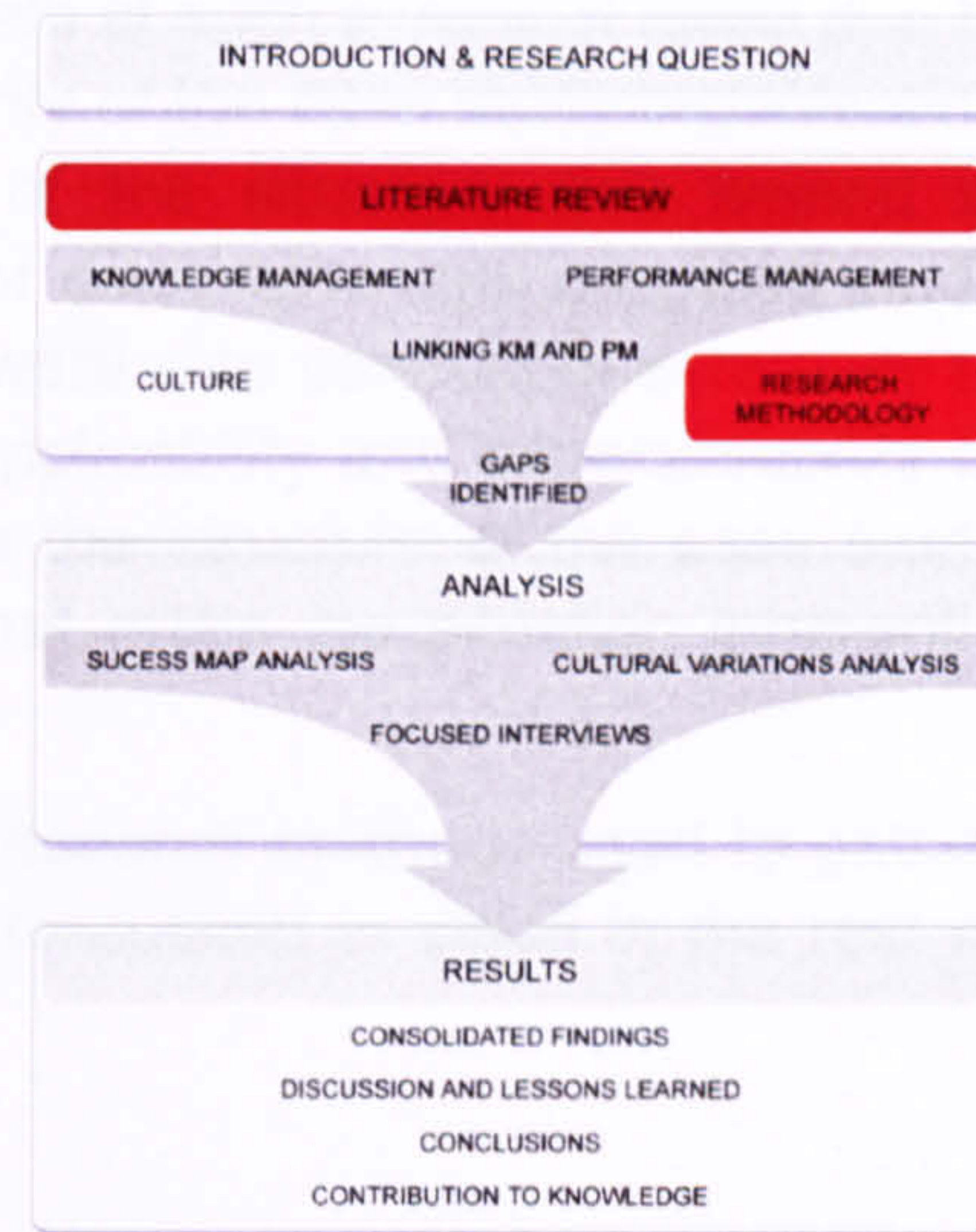
(Addressing issue 1 and issue 2 from above)

2. Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?

(Addressing issue 3 and issue 4 from above)



### 3 Research Methodology



“Thoughts are alive as much due to validation as due to contradiction”<sup>1</sup>

*Stefan Zweig (1881 – 1942)*

#### 3.1 Introduction

This chapter discusses the research methodology applied and presents the issues specific to the environment this research was conducted in. Within the context of the knowledge management function of an international professional services firm, the research questions are:

1. Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?
2. Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?

Robson (1993) identifies three main research strategies: Experiments, survey and case study. Experiments are not appropriate for this research as they require laboratory conditions. Surveys entail gathering data from a wider population. Case studies are empirical investigations of a particular contemporary phenomenon within its real life context, using multiple sources of evidence (Robson, 1993).

The principal approach of this research was driven by the complexity of the topic and by practical reasons such as access to data. The author is observer and participant in the KM environment of a law firm and is in the fortunate position to be able to use

<sup>1</sup> Gedanken leben ebenso von der Bestätigung wie vom Widerspruch.



internal surveys, documents, databases and staff interviews as multiple sources of evidence, therefore it was considered that a case study approach would be most suitable for this research. Beyond the case study organisation it would have been impossible to get comparable access to any type of data at such a level of detail due to the sensitivity of the data under research. The familiarity of the case study organisation to the author and therefore better understanding of the situation also helped in advancing this research. For these reasons the author decided to limit this case study to one organisation (except for the interviews, which were also conducted externally to validate findings). This should however not limit the applicability and generalisability of this research as the core concepts of KM as well as the structure of the case study organisation do not necessarily differ to an extent that make the situation inherently different.

The design of the case study, the methodology and research methods used to gather and analyse the evidence from multiple sources are discussed in detail in the rest of this chapter.

### **3.1.1 About the research methodology**

This chapter describes the fundamental success factor for any research project, the design of the appropriate research methodology. As Easterby-Smith (1991) stresses, there are no right answers in a process like this. There may be several appropriate research paths and at the same time many inappropriate ones.

Choices that need to be made during the process must always be made with reference to the research questions being addressed (Robson, 1993). On the following pages the author discusses the approach taken and the methods used during this research. A multi-method approach to this research included the use of qualitative as well as quantitative analysis, case studies, the use of questionnaires and interviews as well as statistical methods of correlation and regression analysis.

To the author's knowledge there are no studies into knowledge and performance management in the professional service environment applying these or comparable methods. At this stage the author would also like to stress how important the structured approach was for him and that it proved helpful in difficult situations to come back to this chapter during the course of doing this research to find guidance and decide for the best possible path at each crossing that occurred. This research fundamentally follows the eight steps as suggested by Eisenhardt (1989), which will be explained further on in this chapter.

## **3.2 Research strategy**

Case study design builds a basis for valid conclusions from the case study events and evidence collected. For an effective case study as an empirical validation exercise, the author considered two characteristics of this research:



1. The organisation this research is about allows for an all around analysis based on the provision of eight comparably organised business units with similar working practices across countries, cultures and jurisdictions.

2. The subject of the research is well researched in a theoretical way but there are very few practical applications of how performance measures are applied to knowledge in a professional service environment. In the public domain there are no methodologies or case studies available to compare results with, especially not in the law firm environment.

This motivated the author to do this research following the multiple case studies approach based on Yin (1994) who also advocates that theory building is grounded in case study research. Theory building is also discussed in the Grounded Theory by Glaser and Strauss (1967) but they argue that the researcher needs to approach the research free of any theory and preconceptions, conduct field studies, retreat to existing theory for comparison, add more empirical data and so forth until saturation, to allow theory to emerge iteratively.

Yin (1994) and Eisenhardt (1989) argue that case study research is especially useful in answering explanatory, how and why types of questions. These questions can lead to theory testing but also, more importantly to theory development. But in theory building, no matter how inductive the approach is, one needs to have a prior view and a grasp of the general concept of the categories to be studied and their relationships.

Cooper and Schindler (1998) add another view on the topic of case research, which is that it provides the opportunity for developing a full contextual analysis and therefore can provide a source of new hypotheses and constructs for the advancement of new theory. The author acknowledges the logic behind both sides of the argument on whether one must be free of any theory or needs to have a prior view. In this case study, there already is some groundwork providing a prior view through the "Knowledge Scorecard" developed within the organisation which assumes several connections based on literature and management workshops.

The relation of suggested cause and effect in the success map of this Balanced Scorecard (BSC) slightly adapted to be used for measuring the management of intellectual capital is the starting point of this research. By using multiple case studies across the organisation, the Grounded Theory methodology is followed by building theory from the status quo of measurement within the organisation and by doing so, developing new theories based on observations made throughout this process.

### 3.3 Case study methodology

To do an explanatory type of case study and show the how and why (Yin, 1994), the methodology demands five components to be defined in the case study design process: The study questions, study proposition, units of analysis, the logic linking the data to the propositions and the criteria for interpreting the findings. A more thorough approach is suggested by Eisenhardt (1989), detailing an eight step roadmap that has been applied in much research being carried out over the last 15 years and appears to



be a case study design standard. This is the approach the author used in this thesis. These eight steps are:

1. Getting started
2. Selecting cases
3. Crafting Instruments and Protocols
4. Entering the field
5. Analysing the data
6. Shaping Hypothesis
7. Enfolded literature
8. Reaching closure

### 3.3.1 Getting started

According to Eisenhardt (1989), the getting started step helps in focussing efforts and enabling a better grounding of construct measures. Within the context of the knowledge management function of an international professional services firm, the research questions are:

*Research question 1 (RQ1): Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?*

*Research question 2 (RQ2): Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?*

The population for this case study was defined as the professional service environment, or to be more specific the law firm environment. The case study organisation allows very detailed insight into knowledge management related processes and further external validation was sought through the use of interviews. These interviews (method described in detail further on in this chapter) extended the view beyond the one firm by capturing the expertise by KM practitioners and fee earners from other comparable firms. Before discussing the most suitable approach to these questions as well as the approaches chosen to answer these questions, the characteristics of this research need to be defined. First and foremost, these are the epistemological questions, i.e. which basic assumptions can be made about this research that influence how the resulting knowledge is created. The challenge in this context is the diverse nature of the two research questions and therefore how to classify them.

#### 3.3.1.1 Research approach: Positivism vs. Phenomenology

There are two major approaches on how to conduct research: the positivist approach focussing on quantitative methods and the phenomenological approach using more of



the qualitative methods. While the phenomenological approach is a more contemporary approach, positivism is the more traditional model of how to do things. The basic question is whether the methods and procedures from natural sciences are appropriate for use in social sciences, but Easterby-Smith (1991) argues that most studies contain elements of both and can be considered as opposing ends of the spectrum in which research is moving. Table 16 compares the characteristics of both approaches:

	Positivist approach	Phenomenological approach
Basic Beliefs	<ul style="list-style-type: none"><li>• The world is external and objective.</li><li>• Observer is independent.</li><li>• Science is value free.</li></ul>	<ul style="list-style-type: none"><li>• The world is socially constructed and subjective.</li><li>• Observer is part of what is observed.</li><li>• Science is driven by human interests.</li></ul>
Researcher should	<ul style="list-style-type: none"><li>• Focus on facts.</li><li>• Look for causality and fundamental laws.</li><li>• Reduce phenomena to simplest elements.</li><li>• Formulate hypotheses and test them.</li></ul>	<ul style="list-style-type: none"><li>• Focus on meaning.</li><li>• Try to understand what is happening.</li><li>• Look at the totality of each situation.</li><li>• Develop ideas through induction from data.</li></ul>
Preferred methods include	<ul style="list-style-type: none"><li>• Operationalising concepts so that they can be measured.</li><li>• Taking large samples.</li></ul>	<ul style="list-style-type: none"><li>• Use multiple methods to establish different views of phenomena.</li><li>• Small samples investigated in depth over time.</li></ul>

Table 16: Positivist vs. phenomenological research approach

This thesis aims to research an existing business scenario, uncontrollable and with involvement of the author, which suggests a phenomenological approach however at the same time, many facets of the positivist approach apply when evaluating a PM framework focussing on how knowledge can be managed in a professional service organisation. Such a performance management (PM) framework is based on quantifiable needs and requirements, on causalities and fundamental laws and PM in itself is always a means of simplifying bigger phenomena down to one piece of information that should enable people to take decisions based on this piece of information.



This again suggests the application of the positivist paradigm (based on Easterby-Smith et al. 1991). Strauss and Corbin (1990) argue that a researcher does not start with a theory to prove but rather starts with a focus area of study and that the themes of relevance within the studied area will emerge. As the entire research cannot be classified as one or the other it makes sense to split up the discussion down to the two research questions: RQ1 constitutes a predominantly positivist approach, looking for clarity on causalities in a predefined environment while RQ2 is predominantly phenomenological, focusing on looking for general patterns of behaviour and trying to understand what is happening in the different practices and countries across the firm.

### 3.3.1.2 Research method: Deductive and inductive

A deductive research method implies commencing research with a theory or a hypothesis to be tested using gathered data, leading to acceptance or rejection of the theory. Robson (1993) describes the deductive (Positivist) approach as having five sequential steps:

1. Deducing a hypothesis from theory.
2. Expressing the hypothesis in operational terms that propose a relationship between two specific variables.
3. Testing the operational hypothesis by experiment or some other form of empirical inquiry.
4. Examining the outcome (to confirm or indicate the need for modifying the theory).
5. If necessary, modifying the theory in the light of the findings and repeating the cycle so as to verify the revised theory.

In contrast, the inductive research approach develops theories and hypotheses as the result of the inquiry. The theories and hypotheses usually come after data collection rather than before it and are therefore often referred to as hypothesis generating (as opposed to hypothesis testing) research (Robson, 1993). When looking at the bottom line of both approaches, the question is: does it seek to generate (inductive) or test theory (deductive)? Again, this research is a mixture of both. A framework was being tested with the aim to enrich this framework and generate new theory, but due to the existence of this framework, assumptions such as the basic success map were already in place at the start of this research.

The framework in place can also be seen as the answer to an explanatory enquiry seeking to explain a situation or problem in the form of causal relationships and asking the question "What are the precise relationships that exist between a set of variables?" (Easterby-Smith et. al., 1991). The research can again be qualitative or quantitative. So again, there is a split between the two research questions, with RQ1 being deductive by testing theory on an existing framework and RQ2 being inductive by generating theory from the data available.



3.3.1.3 Research purpose: Exploratory, descriptive and explanatory

As the research purpose determines the methods of data collection and therefore the analysis used, it is important to fully understand it. Robson (1993) suggests that all real world research can be classified according to three purposes. Table 17 is based on Robson (1993) and compares the three predominant research purposes identified:

Purpose	Description
Exploratory	To find out what is happening To seek new insights To ask questions To assess phenomena in a new light Usually Qualitative
Descriptive	To portray an accurate profile of events Requires extensive knowledge of the situation to guide data collection May be Quantitative and/or Qualitative
Explanatory	Seeks causal explanation of a situation May be Quantitative or Qualitative

Table 17: Research purpose according to Robson (1993)

According to this classification, RQ1 can be identified as explanatory, as it seeks to explain causal connections, while RQ2 is exploratory, seeking new insights and asking specific questions to determine what is happening.

3.3.1.4 Research analysis: Quantitative vs. qualitative

Another (final) distinction that needs to be stated for completeness before moving on to the next step in the research methodology is the distinction between qualitative and quantitative, which according to Miles and Hubermann (1994), Eisenhardt (1989) and Yin (1984) can never be a clean cut between the two but most likely a mixture of both.

Quantitative researcher Fred Kerlinger is quoted as saying, "There's no such thing as qualitative data. Everything is either 1 or 0" (Miles and Hubermann, 1994, p. 40). To this another researcher, D. T. Campbell, asserts "all research ultimately has a qualitative grounding" (Miles and Hubermann, 1994, p. 40).

Miles and Huberman (1994) see the back and forth banter among qualitative and quantitative researchers as essentially unproductive. Strauss and Corbin (1998) provide the definition that qualitative studies can be seen as any kind of research that produces findings that have not been derived from statistical procedures or other



means of quantification. There are clear differences between qualitative and quantitative approaches, but for Miles and Huberman (1994) the choice between using qualitative or quantitative approaches actually has less to do with methodologies than it does with positioning oneself within a particular discipline or research tradition.

The author of this research does not feel compelled to get involved in this kind of debate and acknowledges that RQ1 is looking to explain relationships, so the approach is predominantly quantitative while RQ2 is looking to explore patterns and the approach is therefore predominantly qualitative. Table 18 sums up the approach taken for both research questions:

	Research question 1	Research question 2
Research approach	Positivist	Phenomenological
Research method	Deductive	Inductive
Research purpose	Explanatory	Exploratory
Research analysis	Quantitative	Qualitative

Table 18: Summary of research approach, method, purpose and analysis

3.3.2 Selecting cases

In its basic analysis, this research is mainly limited to one organisation. The case study organisation uses the organisational segmentation into several practice groups (PGs), which segment the lawyers into subject matter experts in the following fields: Competition, Corporate, Litigation, Employment, Finance, Intellectual Property, Real estate and Tax.

These PGs are scattered over 25+ offices in 15+ countries, which organisationally are again divided into the regions UK, US, Asia as well as Continental Europe I (German speaking countries + Central Eastern Europe) and Continental Europe II (Rest).

Taking into account the data available to the author, as well as the aspect of different cultures, the author decided to do this research on two levels:

- 1. One a firmwide basis, where sufficient data could be obtained and where a firmwide view was useful in terms of getting the overall picture
- 2. On a case level, with 8 selected cases where data limitation prohibited a firmwide view and where a more detailed view was appropriate

The cases selected for the second point, the case level is as follows: 3 PGs in 4 offices, situated in 3 different regions, as shown in Table 19:



REGION	UK	Continental Europe I	Continental Europe II
Corporate	Case 1: London	Case 2: Frankfurt Case 3: Vienna	Case 4: Paris
Competition	Case 5: London	Case 6: Frankfurt Case 8: Vienna	Case 7: Paris

Table 19: Case study samples chosen for this research

As Eisenhardt (1989) suggests, the author has selected these cases for reasons of environmental control and not randomly, against which Eisenhardt (1989) advises. As one can only study a limited number of cases, those selected were chosen because of the following characteristics:

- Corporate is the biggest PG and therefore data is very rich and supposingly meaningful, while Competition is a smaller PG with therefore different working practices in relation to KM.
- The common perception is that the four offices are culturally very different, with London and Frankfurt being the biggest in headcount and being in the two important financial centres and Vienna and Paris being smaller offices with nonetheless crucial contributions to the organisation's network.
- The author has worked in three out of the four offices so far and therefore has good access to people and data in these offices.
- The case studies selected cover three of the five firm-wide regions.
- The case studies selected cover offices that were three different law firms prior to a series of mergers in 2000 and 2001.

These cases represent a significant part of the organisation's core business and revenue generation centres as well as a good sample in the context of smaller offices and PGs and their processes. The results will have certain limits in terms of generalising the findings, as

- This research only applies to the law firm / professional service firm environment and takes place in one organisation that applies knowledge management in a certain way that has evolved over a long period of time and is specific to the culture and environment of the organisation.
- Having stated that, the author feels confident that there will be aspects like causalities or lessons learned on cultural issues that can be applied to KM in general and possibly more that will have validity in international professional service firms.



3.3.3 Crafting Instruments and Protocols

As briefly discussed earlier, Yin (1984) suggests that case studies can include either quantitative data only or qualitative data only or both. Eisenhardt (1989) acknowledges the usefulness of a combined approach as one type can support findings from the other or make it evident that assumptions are wrong. She also suggests that qualitative data can be very useful in helping the researcher to understand the rationale behind findings. The core research will focus on validating the cause – effect relations in the success map, which is filled with quantitative data drawn from the organisation's internal reporting tools. A significant part of qualitative data is drawn from an internal fee earner survey, which looks at the perception, efficiency and acceptance of KM services among the users. In total there are four major data collection tools for this case study that all feed into the BSC by providing the necessary data to fill 80% of the indicators selected. Table 20 lists the relevant data collection sources, scopes and intervals:

Source	Scope	Interval
User awareness & satisfaction survey	Online survey among 25% of worldwide fee earners within the firm asking satisfaction and usage for all KM services.	Data taken from first iteration of survey.
Financial data	Expense and income reports on Practice Groups, location and services such as KM.	Reports can be run any time
Usage data	Usage statistics for online and offline information and know-how services such as precedent collections and library services.	Reports can be run any time
Other databases	Other databases from which data is gathered from, such as HR databases or other statistics sources.	Reports can be run any time

Table 20: Data collection tools

3.3.3.1 Questionnaires

As one of the core means of embarking on this research was the result of a questionnaire administered to a large part of the organisation, the main issues around questionnaires also need to be discussed. Questionnaires are a very time efficient way of doing research (Robson, 1993) but come with substantial problems compared to interviews, such as the lack of a possibility to check on the honesty or seriousness of results or the necessary effort for the results to be meaningful.



The questionnaire must be painstakingly constructed, with very clear and unambiguous instructions and careful wording of questions. The author can confirm that the latter requirements were met in this survey as a large and well-managed project preceded the online distribution of these questionnaires. The few open ended questions were thoroughly analysed and utilised. As for honesty and seriousness the author can only assume that people in a highly professional organisation, whose daily work is highly likely to include interaction with KM and (in the case of partners) who supply the funds for the KM function out of their share of the profits would be very honest and serious (compared to the author being forced into filling out a random online survey).

The high response rate of above 70% can also be seen as a statement on the high acceptance of KM among fee earners. The survey was the first of its kind within the case study organisation and aimed at understanding the interaction of fee earners with services provided by the KM function better. Table 21 shows the response rate and other relevant data for the questionnaire used in this research:

User awareness & satisfaction survey	
Response rate	> 70%
Total responses	> 400
Fully valid responses	> 85%
Coverage	All roles (Partner, Associate, Trainee, other) All offices (25+ on 3 continents) All practice groups (8)

Table 21: Key figures on survey used for analysis

The questionnaire consisted of 21 questions divided under 7 headings:

1. Personal information on office, region, practice group, job role and tenure.
2. Value of KM to the business: One choice question asking for the value perception of KM among fee earners, one open-ended question to explain the rating
3. Access: One multiple-choice question asking for a ranking of five methods for accessing knowledge by their efficiency, one open-ended question to make suggestions for improvement
4. Contributions: Two multiple-choice questions asking for a ranking of five methods for contributing knowledge by their efficiency and one open-ended question asking for suggestions for improvement.



- 5. Current Awareness: Two multiple-choice questions asking for a ranking of five methods for keeping up to date by their efficiency and one open-ended question asking for suggestions for improvement.
- 6. General: Open-ended question for lessons learned
- 7. Commitment: Two yes/no questions on future participation in interviews/workshops, one free text question for name of respondent (optional)

Table 22 on the following page shows three sample questions from the questionnaire:

Sample questions	Possible answers
Question 6: Generally speaking, how valuable (in terms of the impact they have on the way you work) are the services that the Knowledge Management team provides?	Very valuable <sup>2</sup> Somewhat valuable Neutral Not very valuable Not at all valuable
Question 12: Below is a list of ways in which some law firms motivate lawyers to contribute material to knowledge collections. How effective would each of the following be in motivating you and others to contribute material more frequently?  1. Authority or direction from partner or immediate supervisor to spend time on contributions  2. Provision of a charge code that enables me to record the time  3. The knowledge that my contributions would be considered as part of my annual appraisal process  4. A one-time incentive or reward  5. Peer recognition and respect	(For each item :)  Very effective Somewhat effective Neutral Not very effective Not at all effective
Question 19: Would you be willing to participate in a follow-up interview?	Yes  No

Table 22: Sample questions from questionnaire

<sup>2</sup> Rated from 1 to 5 on the Likert scale



### 3.3.3.2 Databases

In addition to the questionnaire data, this formed the core set of data for this research. Data drawn from databases as outlined above was used to complement the data and fill the indicators used in the scorecard. The biggest challenge was cleaning up the data and pulling it together into one meaningful database to be used for the full scale analysis. Sample databases queried were:

- Finance database for fee income figures
- HR database for staffing ratios relating KM to fee earning staff
- Usage databases for know-how systems
- Usage databases for discussion forums

RQ1 is a straightforward analytical question that requires a straightforward empirical answer and therefore the introduction of statistical methods (to be explained in detail from section 0 onwards). A wide variety of data (see from this section onwards) was pulled into one table, allowing to research relationships between financial, staffing, usage and survey data. This table was used as a basis for identifying cause and effect of KM and organisational performance. RQ2 is building on RQ1 and researches reasons for cause and effect identified in RQ1 and aims at including the bigger picture of KM in professional service firms. The research method and the aim to provide a bigger picture was in part inspired by the research by Broady-Preston and Williams (2004) who had used interviews as a basis to provide valuable insight into the contribution of knowledge to the business of a law firm.

### 3.3.3.3 Interviews

After initial discussion of results the author felt it would be necessary to play back the results to the organisation and also benchmark the results with practitioners from other, comparable organisations. The method chosen is semi-structured interviews, a definition which will be explained on the next page, but what it is important to state upfront is that this allowed a greater deal of flexibility for the interviews. As Wengraf (2001) defines, this as an interview where a number of questions have been prepared in advance and the interviewer is at liberty to decide during the interview which ones to use and with the opportunity to adapt to the responses of the interviewee. As advised by Cooper and Schindler (1998) two pre-tests of interviews were conducted to check the flow of questions, suitability, clarity and language used. Based on this feedback, some questions were changed to a more generalisable context as some of the wording used had been too specific to one firm. Robson (1993) describes interviews as "a kind of conversation; a conversation with a purpose". Interviews are a very commonly used way of doing research, with certain advantages and disadvantages (based on Robson, 1993):

- Interviews are flexible and adaptable. Interviews allow not only to ask specific questions and listen but also to observe behaviour and draw conclusions from this aspect of the "conversation".



- Face-to-face interviews offer the possibility to modify the line of enquiry, to follow up on interesting responses and investigate underlying motives. By allowing for this flexibility, they are much more effective than questionnaires.
- The lack of standardisation that interviewing implies raises the concern of reliability. Biases are difficult to rule out and one cannot just learn the skills to conduct interviews. The author has had some experience in his undergraduate studies with interviewing, which certainly helped. Also, being aware of the risks such as bias helps in avoiding that mistake.

Interviewing is time consuming. Robson (1993) recommends between half an hour and an hour for an interview and mentions the difficulties in getting meetings set with busy potential interviewees. As the author had enough time to conduct the interviews, this was not an issue. Yin (1989) describes variations in interview techniques from being highly structured to free range conversations using closed as well as open-ended questions. The most referenced researcher the author came across is Robson (1993), who describes three types of interviews, with the main distinction being the degree of formality (or degree of control the interviewer imposes on the conversation):

- The fully structured interview features a predetermined set of questions in a predetermined order. A fully structured interview gives little room for responses to vary and is best used for research when the goals are clearly understood and specific questions can be identified. Robson (1993) refers it a questionnaire where the interviewer fills in the responses.
- A semi structured interview means the interviewer is free to modify the order of the questions asked and can better adapt to the "conversation" also by leaving questions out, give explanation, change the wording.
- An unstructured (completely informal) interview requires the researcher to go into the interview relatively unprepared, just sharing the general idea of the area of interest and concern and letting the conversation develop.

The author decided to use the framework of semi-structured interviews as he felt that more information could be gained out of adapting to the conversation this way. Unstructured interviews were ruled out as there were concise research questions to answer and potentially too much irrelevant information would have been collected that way. A semi-structured interview also gives more room for improvisation. When comparing structured and semi structured interviews, Wengraf (2001) lists three requirements that need to be fulfilled for successful semi structured interviews, one that as much preparation as for structured interviews is required before the actual meeting, the second one is that more discipline and creativity than for structured interviews is needed and the third one is that more time for analysis and interpretation after the meeting is necessary. In this research, the author adhered to the principles and procedures recommended by Robson (1993) in regards to interview schedule, conduction and analysis. As recommended by Patton (1990), follow up questions were used within the semi-structured interviews to help confirm or discard underlying



assumptions and issues that needed clarification. The concept of theoretical saturation (Eisenhardt, 1989, Glaser and Strauss, 1967) guided the number of interviews conducted and as the questions asked were based on previous research done within this thesis, very soon little or no variation was observed in the questions that did not allow free text answers.

The list of interviewees, information about the interviewees, the interview itself, duration and responses can be found in 6.2 "Interview Sample". The full interview questionnaire can be found in APPENDIX 1.

### 3.3.4 Entering the field

Eisenhardt (1989) calls an overlap in research in terms of collecting and analysing data very useful and recommends keeping field notes, i.e. writing down whatever impressions occur. The author has been doing this since the start of the Knowledge Scorecard project in terms of project documentation and continued this diary as a research diary since the start of this research. It typically included a summary of the day's activities, quotes from interaction with project members, KM workers as well as the author's feelings about how the research could be developed and simple analysis of data as it occurred. At this point it needs to be mentioned that there has always been the risk of research bias, as the author was working at the organisation in question throughout this research. A research bias can be defined as an unknown or unacknowledged error created during the design, measurement, sampling, procedure, or choice of problem studied and it is difficult to avoid unless one reminds himself constantly of the risk. As most of this thesis is based either on analytical methods that are thoroughly defined or at least semi-structured interviews the author hopes to have avoided this bias wherever possible apart from the one bias that is unavoidable and that is the very basic conviction that there is the need to measure KM.

### 3.3.5 Analysing the data

Under this heading, Eisenhardt (1989) addresses the importance of dealing with the volume of data that inevitably comes with any major research project. As a way of dealing with these issues she suggests within-case analysis. The overall idea of this is to *"become intimately familiar with each case as a stand-alone entity. This process allows the unique patterns of each case to emerge before investigators push to generalise patterns across cases"* (Eisenhardt, 1989, p. 540). Data analysis involved an iterative process of travelling back and forth between the case study data, literature and emerging theory to define an empirically valid set of insights (Miles and Huberman, 1984). In this research, the characteristics of each single case are being discussed and an emphasis is placed on cultural implications and issues that single out the research findings before taking it up one level on a general issue as the author considers this to be of particular interest professionally and academically. Searching for Cross-Case Patterns is very much the next step having done within-case analysis and Eisenhardt (1989) argues that cross-case patterns need to be identified by looking at data in as many divergent ways as possible, the reason being that "people are notoriously poor



processors of information.” (Eisenhardt, 1989, p. 540). She cites the most common errors in research being conclusions based on limited data, overly influenced by vividness, overly influenced by elite respondents, ignorance of basic statistical properties and dropping of disconfirming evidence. Eisenhardt (1989) suggests two tactics to deal with these issues, one is looking for within-group similarities coupled with intergroup differences and looking at the dimensions of this through the research problem or existing literature. A way of doing this is to use a cell design such as 2 by 2 to compare several categories at once. The second solution she suggests is by selecting pairs of cases and listing similarities and differences in order to look for patterns that would not be expected to appear in similar cases. The author followed this method accordingly as Eisenhardt (1989) suggests as this has been suggested also by samples of successful case study research found in literature, such as Pare (2002) or a further analysis of the method by Wilson and Vlosky (1997).

3.3.5.1 The three phases of analysis in the thesis

Table 23 gives an overview on the three phases of analysis in this thesis and the analysis methods used. These methods are then described in more detail below.

Analysis I: Success Map Analysis (chapter 4)	
Data sources:	Predictors from the Knowledge scorecard database (48 predictors), drawn from various sources, such as financial information as well as HR, survey-based and usage data.
Method:	Regression, Correlation
Desired findings:	The key findings in terms of which factors influence performance, thereby aiming to answer RQ1.
Analysis II: Cultural Variations Analysis (chapter 5)	
Data source:	Survey administered within case study organisation
Method:	Descriptive methods, statistical significance
Desired findings:	Evidence for cultural variations as well as analysis of factors to foster knowledge sharing to answer RQ2 in the context of lessons to be learned.
Analysis III: Focused Interviews (chapter 6)	
Data source:	Expert interviews
Method:	Interview analysis
Desired findings:	Key findings on how experts see KM influencing performance as well as findings on culture and methods to foster knowledge sharing to provide richer and qualitative data to support Analysis I and II and to answer both RQ1 and RQ2.

Table 23: The three analysis chapters in this research



The following sections discuss the methods outlined in the table on the preceding page.

### 3.3.5.2 Regression analysis

Regression analysis is arguably the most widely used statistical tool (Ryan, 1997). This method was used in this research to pull together the multiple variables on the success map and to help to define the relationships with the variable they were supposed to predict. Regression is a technique used to predict the value of a dependent variable using one or more independent variables.

An example is to predict a salesperson's total yearly sales (the dependent variable) from his age, education, and years of experience (the independent variables). There are two types of regression analysis, simple and multiple regression.

Simple regression involves two variables, the dependent variable and one independent variable. Multiple regression involves multiple variables, one dependent variable and multiple independent variables. (Draper and Smith, 1966). The objective of a regression analysis is to predict a single dependant variable from the knowledge of one or more independent variables (Ryan, 1997). Regression analysis in the context of this thesis was used to predict the most important indicators on the success map (the desired final effects of all causes) and therefore determine the critical factors that these indicators are influenced by.

It was crucial in determining whether the success map as laid out by the Knowledge Scorecard project really was containing the appropriate indicators.

### 3.3.5.3 Correlation analysis

Judge (2000) is opposed to correlation as it makes no assumption up front as to whether one variable is dependent on the others and is not concerned with the relationship between variables. Instead, it gives an estimate as to the degree of association between the variables. Correlation analysis tests for interdependence of the variables and is concerned with finding out the extent to which two variables are related to each other or tend to vary together. The correlation coefficient expresses the strength of their relationship. It does not necessarily express cause and effect but merely whether the variables vary together (Barrow, 1996). This method was used as an additional means to look beyond the regression results where necessary.

### 3.3.5.4 Statistical significance/chi square

Robson (1993) sees one method of assessing statistical significance in applying the chi-square test to data. This test basically looks at how random data is, i.e. assessing the probability of obtaining the observed relationship if only chance factors are in operation. Robson (1993, p. 336) refers to the chi-square test as "*codified common sense*". It was therefore used to provide evidence on the validity of data.



3.3.5.5 Descriptive statistics

Data was analysed and graphically displayed using bar charts that show the variance in certain attributes of questions answered in the questionnaire. This method was used to analyse the results on cultural variations as well as variations by job role or tenure of respondents. This is the simplest form of analysing data, by looking at different views in bar charts.

3.3.5.6 Interview analysis

Interviews were recorded, typed and analysed for reuse in this research. Interviews asked for both, qualitative and quantitative input and were analysed accordingly. The author approached interviews in line with Cooper and Schindler (1998) *“content analysis is useful for measuring the semantic content or the what aspect of a message”*. The content was therefore analysed according to subject area and responses. Questions were coded and analysed on a question by question basis and quotes were tagged for future use. A log was kept as recommended by Cooper and Schindler (1998) in addition to the general research log recommended by Eisenhardt (1989). The answers to the coded questions were analysed according to subject area – and where appropriate – by their numerical value and summed up.

3.3.5.7 Triangulation

One important benefit of using multiple methods is in the reduction of *“inappropriate uncertainty”* (Robson, 1993, p. 290), the use of a single method of data collection and assuming that it has yielded the correct answer. Assuming that there are multiple perceptions of the same phenomenon and attempting to understand as many of them as is feasibly possible is consistent with the phenomenological approach. The author considers the variety of methods applied a key strength of this thesis and a valuable contribution in helping to understand the full picture of KM in law firms. The author has taken three steps to ensure the validity of this research. Figure 9 shows an excerpt from the thesis navigator that clarifies this approach:

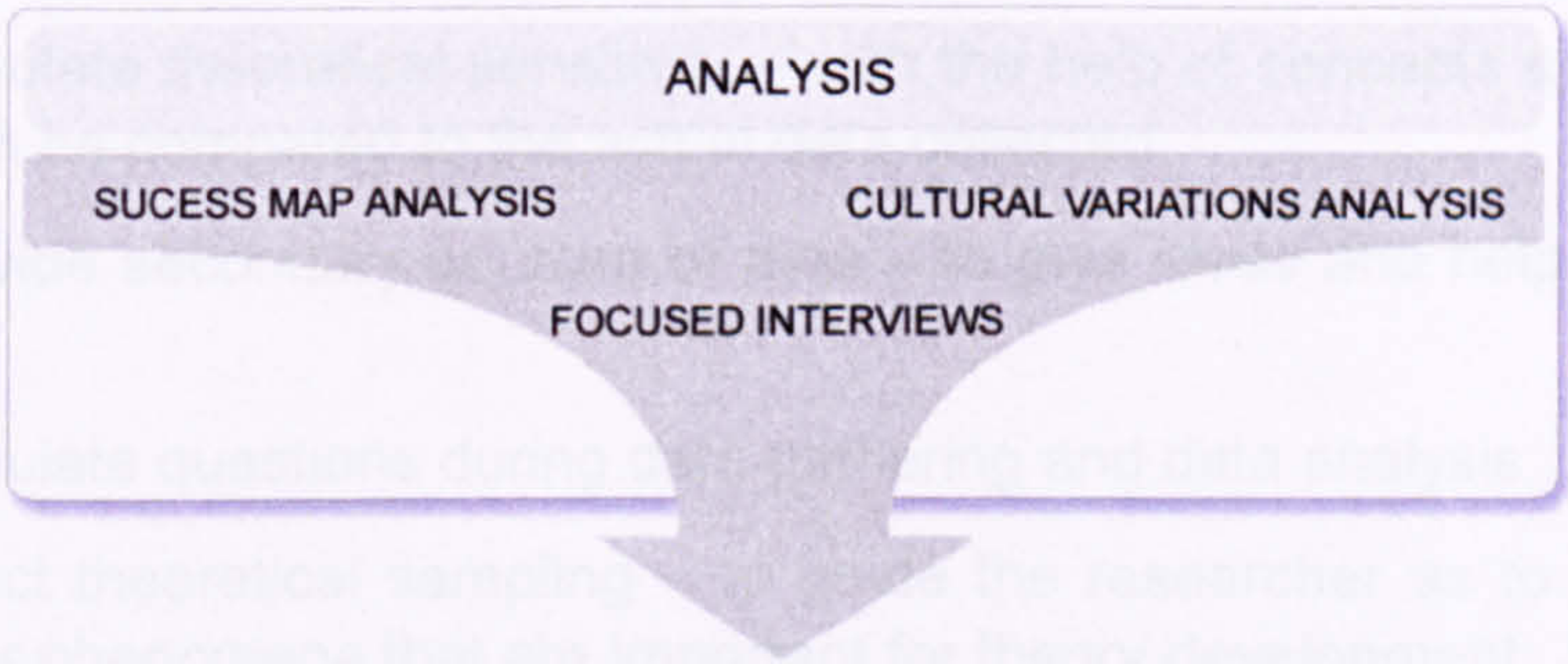


Figure 9: Triangulation by means of causal, cultural and anecdotal evidence methods



First step is the analysis of the success map, using regression and correlation, resulting in a confirmed model of cause and effect and relationships between indicators.

Second step is the analysis of the questionnaire data using by means of descriptive analysis and statistical significance testing, resulting in additional insight in terms of cultural variations analysis.

The third and final step is the analysis of interviews conducted inside the organisation in this research as well as outside with comparable organisations to validate the findings of step 1 and step 2.

### 3.3.6 Shaping Hypothesis

This stage provides *"tentative themes, concepts, and possibly even relationships between variables"* (Eisenhardt, 1989, p. 541) emerging in research. From here on case data and findings are compared over and over again until enough evidence to either support or fail the assumptions made in the success map is found.

At this stage constructs should shape up and evidence should be available for statements to be supported and proceed to the next phase.

Eisenhardt (1989) stresses that each assumption must be looked at in the context of every single case. Yin (1984) calls this the logic of treating a series of cases as a series of experiments, with each case serving to confirm, or disconfirm the hypothesis.

This is, according to Eisenhardt (1989) also the point where qualitative data will provide additional evidence to support and understand findings from quantitative data.

In this research, qualitative data from the interviews was used to provide further detail on the findings from the success map analysis and the cultural variations analysis chapter.

### 3.3.7 Enfolding literature

Strauss and Corbin (1990) suggest that existing literature can be used for five purposes in qualitative research:

1. To stimulate theoretical sensitivity – with the help of concepts and relationships that can be compared to the actual data collected.
2. To provide secondary sources of data – to give ideas and help the researcher focus.
3. To stimulate questions during data gathering and data analysis.
4. To direct theoretical sampling – to guide the researcher as to where to go to uncover phenomena that are important for theory development.
5. To be used as supplementary validation – to explain why the findings support or differ from the existing literature.



By considering a broad range of literature, emerging concepts can be compared to published research and – what Eisenhardt (1989) advises to do – especially with conflicting literature to avoid challenges in either internal validity (results are incorrect) or challenges to the ability to generalise the research outcome (results are unique to the specific cases looked at).

This was initially rather difficult to do as there was very little – if any – literature on KM in law firms and the focus had to be put on solving this by more general studies as well as by looking at published interviews with Chief Information Officer or Chief Knowledge Officers of professional service firms.

From approx. the time this research started (2003) and most significantly in 2005, a surge in quality and quantity on literature on law firm KM was experienced. This development was positive on one hand, as it made it easier to find literature to compare the findings with but at the same time erased multiple pages pulled from at least somehow comparable case studies from this thesis. The author has used a wide variety of keyword searches in journal databases focusing on combinations of the words: knowledge management, performance management, balanced scorecard, intellectual capital, law firms, law firm management, human capital, knowledge, culture and law firm economics.

Another way to find relevant literature were regular scans of volumes a few years back of the relevant journals in the subject area, such as (but not limited to): Academy of Management Journal, Academy of Management Review, Harvard Business Review, Journal of Intellectual Capital, Journal of knowledge management, Journal of Management Information Systems, KM Review, Measuring Business Excellence and Performance Measurement and Metrics.

### 3.3.8 Reaching closure

Closure can be reached once theoretical saturation is achieved. Theoretical saturation is, according to Glaser and Strauss (1967), the point at which incremental learning is minimal because the researcher is observing the same phenomena seen before. Eisenhardt (1989) suggests that this point is often reached, when research ends for pragmatic reasons such as time or money.

This research has ended basically because the author felt that the objectives were met and realised that additional research into either one, the cause and effect relationships, the cultural variations analysis or the interviews did not provide any additional insights, at least not without embarking on the effort of basically starting another research of this scope and effort.

## 3.4 Summary

Eisenhardt (1989) provided very useful guidelines for the author to work with and it was crucial to have that kind of structure from the very beginning. The most important issue for the author arising from research methodology is certainly the try to come as close



as possible to the truth by using triangulation i.e. several different analytical methods to solve the research questions.

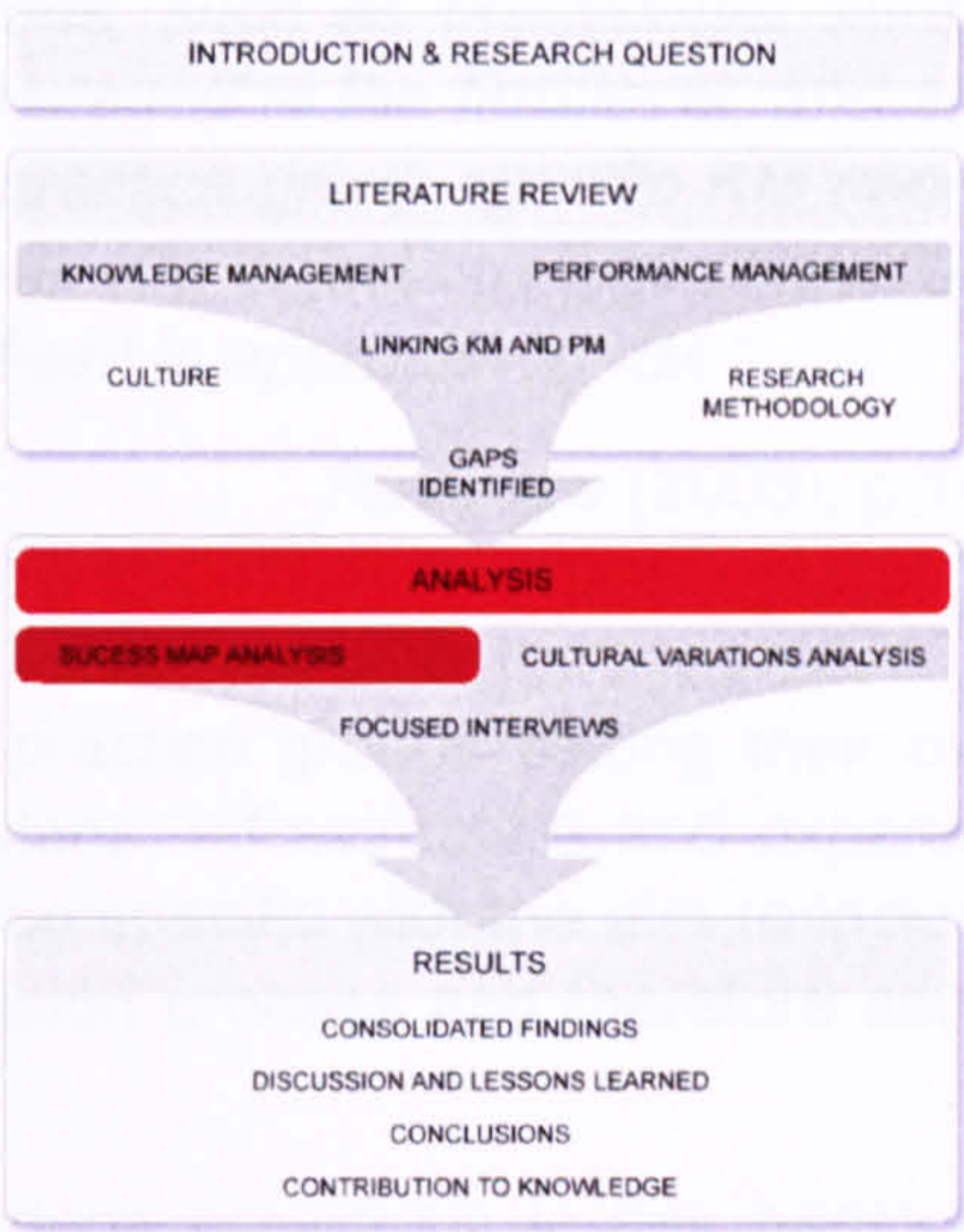
Research question 1 was approached as positivist, deductive, explanatory and quantitative and mostly based on the analysis of questionnaires and accompanying data from internal data sources.

Research question 2 was approached as phenomenological, inductive, exploratory and qualitative and deduced results from the analysis of questionnaires.

To support or disconfirm the findings of the correlation, regression and cultural analysis exercise, interviews were conducted before relating the findings back to literature.



# 4 Analysis I: Success Map Analysis



“In God we trust. All others must bring data.”  
*Proverb of unknown origin*

## 4.1 Introduction

In this chapter the author describes the case study organisation and then conducts the analysis of cause and effect relationships and investigates the impact of knowledge management on organisational performance. At the end of the last century the case study organisation has – as most of its competitors at that time - completed a series of mergers strengthening market position and keeping it among the top five law firms in the world. It is widely recognised that while many mergers in the legal profession went wrong, the case study organisation achieved a lot by merging. The firm is a leader among international law firms, offering business law advice throughout Europe, Asia and the US. With 2,500+ lawyers in 25+ business centres around the world, the firm provides services to national and multinational corporations, financial institutions and governments. Knowledge management has a long tradition and is well anchored within the case study organisation. It has been recognised that a cohesive approach to knowledge management is necessary and the KM department is present in all of the local offices catering local as well as firm wide needs. To give an indication of how serious this organisation takes KM, one number is a good measure: For every 10 lawyers, there is one KM professional.

### 4.1.1 Knowledge management in the case study organisation

The approach at the case study company can be described best as a hybrid approach, which is defined by Rusanow (2003) as follows:



*"The firm sets the direction for knowledge management and provides an infrastructure to facilitate knowledge management among practice groups. KM methodologies are created at the firm level, which can then be applied directly to practice group knowledge management initiatives. Core KM functions, such as precedents, library, legal research, and professional development, are managed at the firm level, and also provide assistance to practice groups in addressing practice group specific KM needs. This approach enables practice groups to achieve their KM objectives while benefiting from a firm-wide strategy-resulting in a cost efficient, flexible approach to KM."*

Rusanow (2003), p.148

This means a firm wide strategy with the room for practice groups setting their own agenda in terms of goals, strategies and business plans. Infrastructure and expertise are provided on each level, firm wide, regional or office specific with the aim to include as many active fee earners as possible in each decision process and therefore serve the firm as well as possible.

Several pieces of KM related research have been done previously in this particular firm: Kreis (2005) on KM in law firms, Tschida (2004) on standardisation versus diversification in law firm KM, Forstenlechner (2002) on the ROI of KM as well as Schulz and Klugmann (2005a) on KM in law firms, which is at least partly inspired by KM at this particular firm. The synthesis from these papers of how KM works in the case study organisation is as follows:

Firm wide KM is led by a partner in the position of Chief Knowledge officer (CKO) who is heading the management team and is responsible for all KM efforts. There are four service functions headed by non fee earning lawyers and information professionals. Responsibility for change management, technology projects, provision of information services and taxonomies fall in these areas. Within the practice groups, fee earning partners hold responsibility locally and globally for the adaptation of and participation in KM and therefore for leveraging the benefits of KM. Responsibility for content and for knowledge management lawyers also lies with the KM partners in the practice groups.

Knowledge management lawyers (KML) are lawyers by profession and members of the practice groups. They are heavily involved in dealing with internal know-how that is needed as well as created in daily fee earning work and are responsible for legal KM work. Among their tasks is reviewing and maintaining internal know-how, collecting know-how and disseminating it.

Tasks vary by culture of the practice group and size of the office, which allows for more specialist services in larger office or for a more consulting oriented role (such as e.g. educating junior fee earners) in smaller offices. Current awareness services are a common task beyond the local work of KMLs as well as supporting publications and pitches.

The term KML is fairly recent as the position used to be called professional support lawyer, a term that came under scrutiny with the rising demands and the stigma attached to it (not being a real lawyer, but "only" support). Knowledge management assistants (KMA) are mostly lawyers who have not completely finished their education



and support the KMLs for a limited time, such as the time until they have finished their training or dissertation.

Library and information services handle external know-how with every office being equipped with a traditional library and information specialists being highly trained in electronic research. Libraries handle queries as well as training for lawyers on databases and online catalogues.

Central teams have very diverse dedicated support areas to work in such as intranet, extranet, project management, change management, taxonomies, development of new products and services, training and technology scouting. This structure has come a long way before it emerged in this form. Experience – trial and success as well trial and error – has formed it. Today KM is well established with a long tradition and a cohesive approach to the goals set.

Figure 10 shows how KM fits into the organisational structure in the context of other business services within the case study organisation:

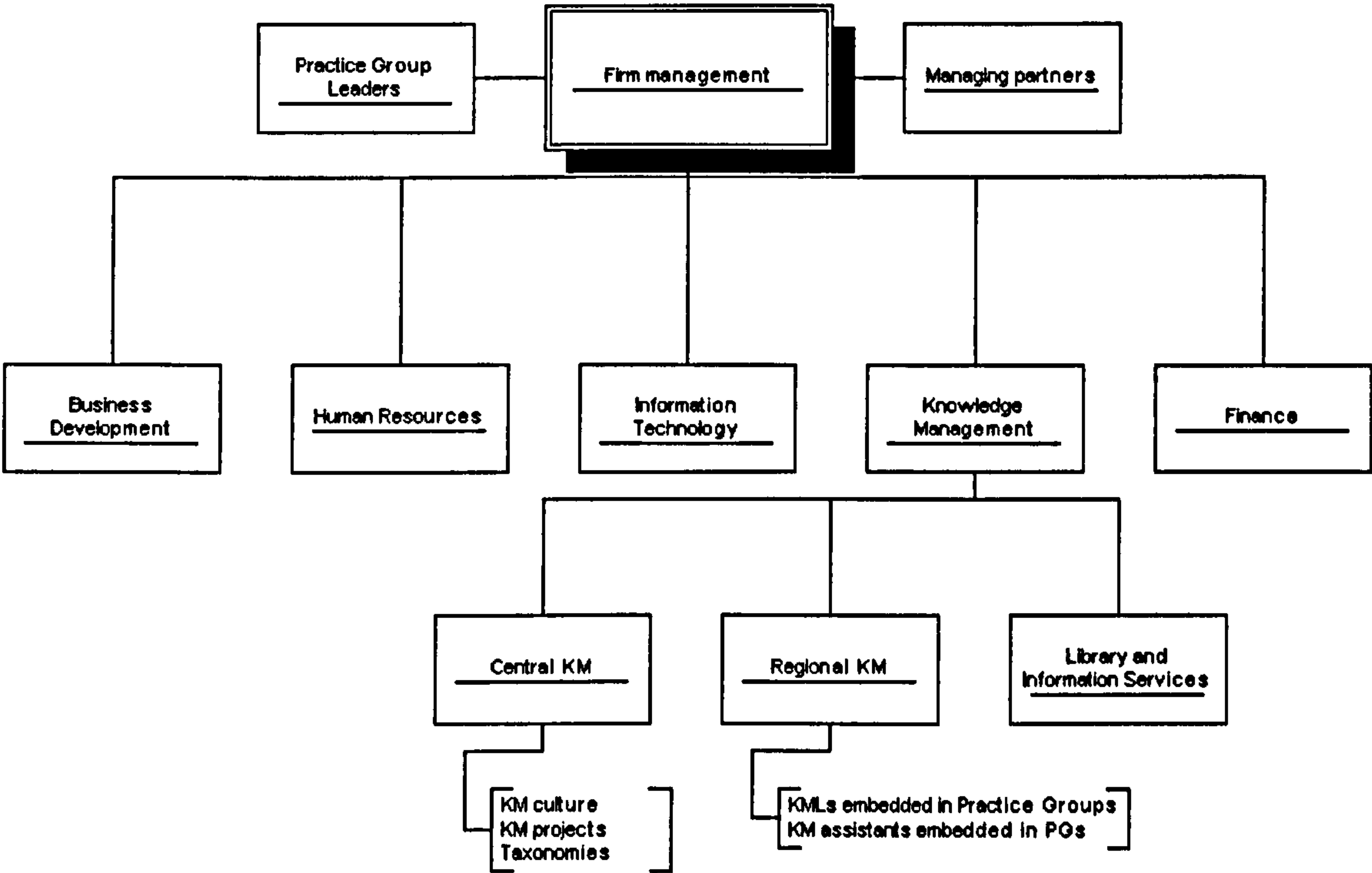


Figure 10: Business services in the case study organisation (all non fee earning)

Knowledge Management is one of the 5 key support functions that allow fee earners to focus on their core task, earning fees, while the support functions provide the services to ensure the smooth running of the organisation.



4.1.2 The “Knowledge Scorecard” project

Figure 11 shows the timeline of the Knowledge Scorecard project with a focus on it being a result of research as well as application in the business. The benefits of this were numerous, reaching from the availability of data, to the possibility to immediately test theories, to always being connected to the latest research and experts in the fields of knowledge management and performance management.

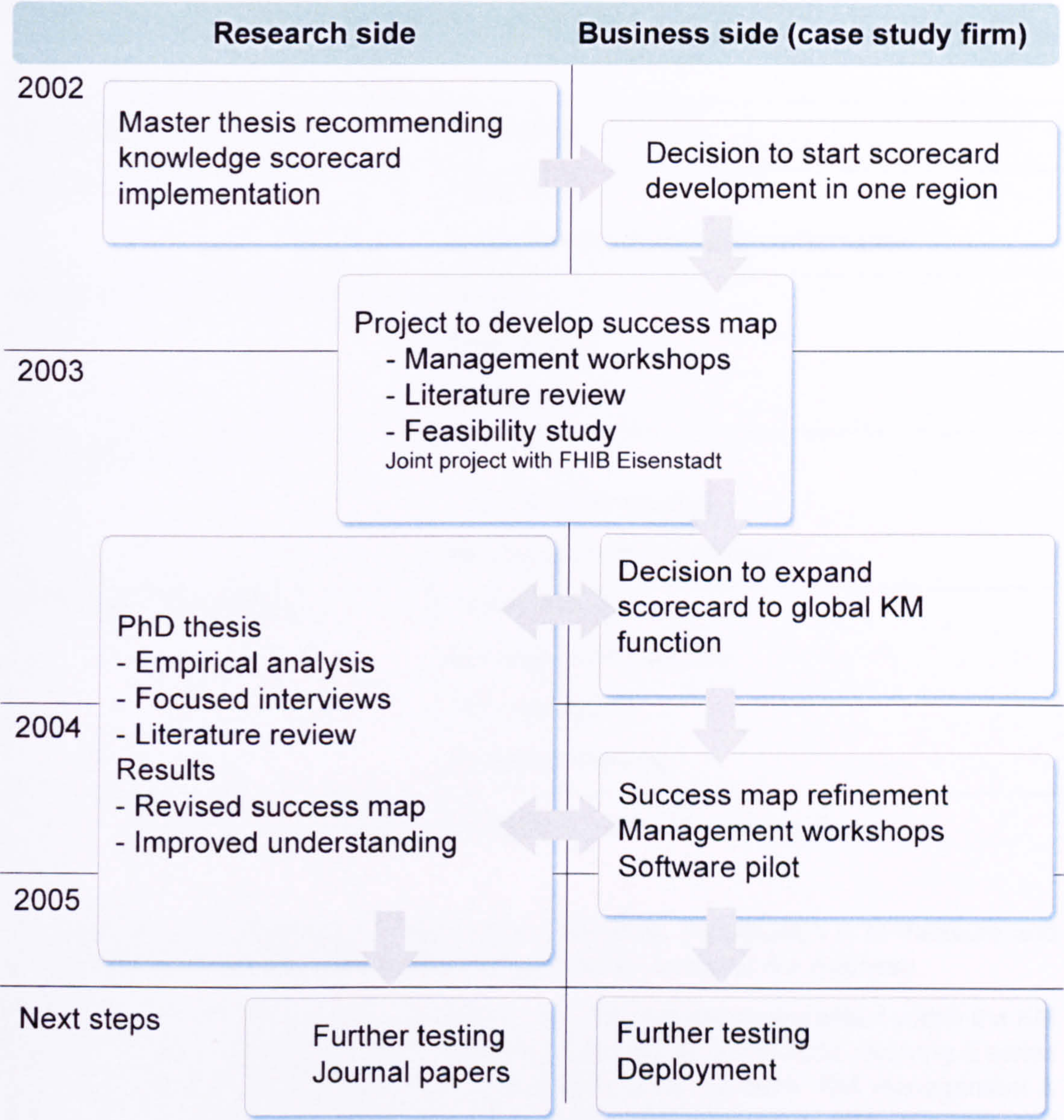


Figure 11: Timeline of Knowledge Scorecard project



In 2002, the case study organisation kicked off a project aiming to measure and manage the knowledge management function. The result of the research phase of this project (which was led by the author of this thesis and jointly run by the KM department and a team of students from the Austrian University for Information Management) was a recommendation to introduce a balanced scorecard to measure, manage and steer the management of knowledge within the organisation.

The implementation phase of the project, which started in summer 2003, came up with a set of indicators linked through a success map looking at four perspectives, which are listed including the relevant indicators in Table 24:

Perspective	Indicators
Finance	Productivity Transparency of cost and performance
Lawyers (= internal customers)	Usage Satisfaction Efficiency
Internal processes	Quality Transfer of knowledge Development of knowledge
Culture and organisation	Standardisation Commitment of lawyers KM organisation Innovative thinking

Table 24: Perspectives and indicators of the Knowledge Scorecard

The purpose of the scorecard used by the case study organisation is to measure and manage the KM function and monitor the contribution of KM to the business.

At the heart of the scorecard is a success map, defining cause and effect within the KM function. This success map is the result of a project active since 2002 involving a series of workshops (involving a large variety of stakeholders: partners, KM management & staff, the Finance department, HR, etc.), a thorough review of KM literature and existing processes within the organisation and it assumes that the links do work in the way it is suggested. This series of cause and effect is based on theory and lessons from practice but has not been validated as yet as to whether it depicts reality. The aim of this chapter is to identify the key drivers and the key causal links within the success map for further research.



Definitions used in this chapter:

**Perspective:** There are four perspectives, which are used as categories to simplify the view on the scorecard. For example all financial information such as productivity or transparency of costs and performance can be found in the "Finance" perspective. A perspective contains between 2 and 4 indicators.

**Indicator:** An indicator, such as productivity is made up from various underlying predictors, such as fee income, hours billed per fee earner, etc. and allows a closer examination of one important aspect of a perspective, such as productivity.

**Predictor:** A predictor is the level where numbers in different formats come in and are then made comparable and summed up to an indicator. Predictors have weightings that define how much of the indicator (and by extension of the perspective) is dependant on them.

The success map in Figure 12 (to be found on the next page) is a set of causal links linking the indicators as described in Table 24 in a series of (assumed) cause and effect relationships. It consists of 4 perspectives containing a total of 12 indicators. Each of these 12 indicators is fed by an average of 4 predictors, that, according to their weighting make up the value of an indicator. As the weighting defining these indicators is also not yet tested the author decided to do his research at the predictor level as this is where the "raw" numbers are.

Whereas the original concept of the Balanced Scorecard (BSC) is not geared towards managing knowledge in a law firm, this approach endeavours to do exactly that by adapting it to the needs in this case. As Kaplan and Norton (1997, p. 33) put it: the scorecard is "*more of a pattern than a straightjacket*" that can therefore be applied to multiple environments under a variety of circumstances. The recommended framework is slowly implemented, with reality checks like this research, and validation through a wider group of people. The desired outcome should be a Balanced Scorecard (BSC) representing validated links in the success map and allowing the firm to manage its Intellectual Capital (IC) in a meaningful and effective way.

Figure 12 on the next page shows assumptions made in the success map, which will be the starting point for this research in which the author wants to test the assumed relationships between the indicators and adjust them where necessary based on the conclusions of this research.

What this success map provides is links between the key performance indicators. The interconnections are based on existing processes within the firm, the outcome of workshops with the KM leadership as well as a series of workshops with practitioners within the firm and KM theory and foundations of from literature.

The links have not yet been validated in any other way than by role-playing and assuming cause and effect logic. For example (to make the idea behind the success map above more tangible): It is assumed that if the worldwide databases are standardised, this would lead to higher quality in terms of usability and therefore to utilisation and this again would lead to higher productivity.



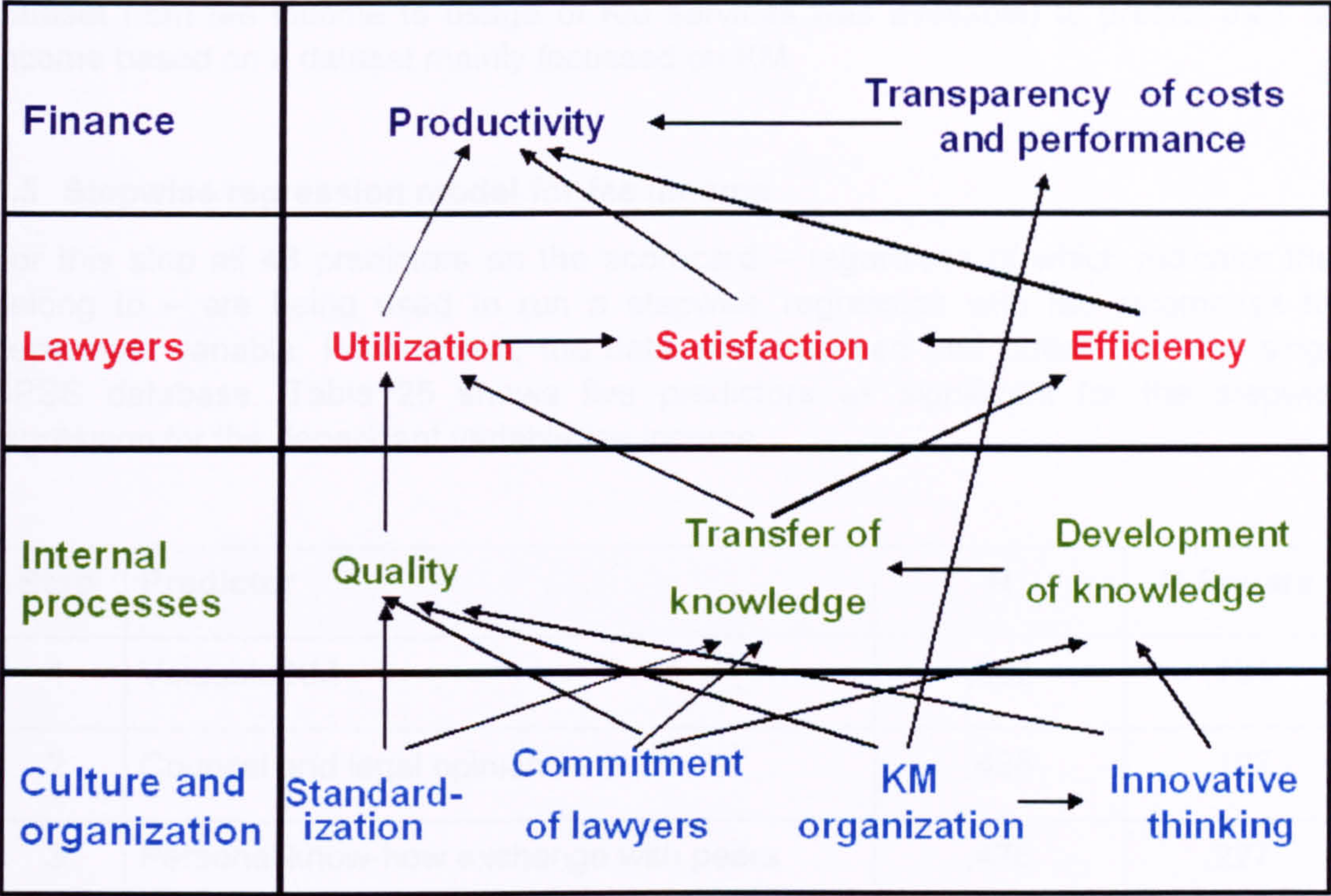


Figure 12: Success Map in the Knowledge Scorecard project

4.2 The analysis

The top perspective is the finance perspective, looking at productivity and cost transparency. In this perspective the desired final effect of everything that is done is productivity, which ultimately encompasses the financial contribution of KM to the business. The core concept of the scorecard as being a chain of cause and effect, combined with data reduction tools in SPSS, suggested that the most important measure among the predictors forming the productivity indicator to be fee income and that it makes sense to reduce it to that predictor. This can also be explained by the fact that other predictors such as hours recorded for billing in relation to fees billed or cost savings have a strong relationship with fee income in the first place, they are auto-correlated, which would cause the results to be blurred.

To avoid that these interrelationships blur the picture, all predictors with a straightforward relationship to fee income were left out of the analysis. Therefore the first question for a department like knowledge management is, if it contributes at all to the fee income figure. If it does then how and to what extent do certain predictors influence fee income. The author started with relating all available predictors to the fee income measure which lead to the regression model below. On the basis of a stepwise regression model, assurance was sought to determine the predictors having a relationship with the most important factor, fee income.

What is tested in this chapter is whether fee income can be predicted with predictors on the success map as assumed by those who created it. The criteria applied in this context is whether there is a common pattern for all 400+ lawyers (for whom the entire



dataset from fee income to usage of KM services was available) to predict their fee income based on a dataset mainly focussed on KM.

4.3 Stepwise regression model for fee income

For this step all 48 predictors on the scorecard – regardless of which indicator they belong to – are being used to run a stepwise regression with fee income as the dependant variable. Prior to this, the data was cleansed and pulled into one single SPSS database. Table 25 shows five predictors as significant for the stepwise regression for the dependant variable fee income:

Step	Predictor	R	R Square
1	Valuable KM	,366	,134
2	Counsel and legal opinions	,438	,192
3	Personal know-how exchange with peers	,476	,227
4	Ease of use of know-how systems	,501	,251
5	News and current affairs	,518	,268

Table 25: Model summary for stepwise regression dependant on fee income

Each of these predictors is now explained in more detail and positioned on the success map.

1. Value perception

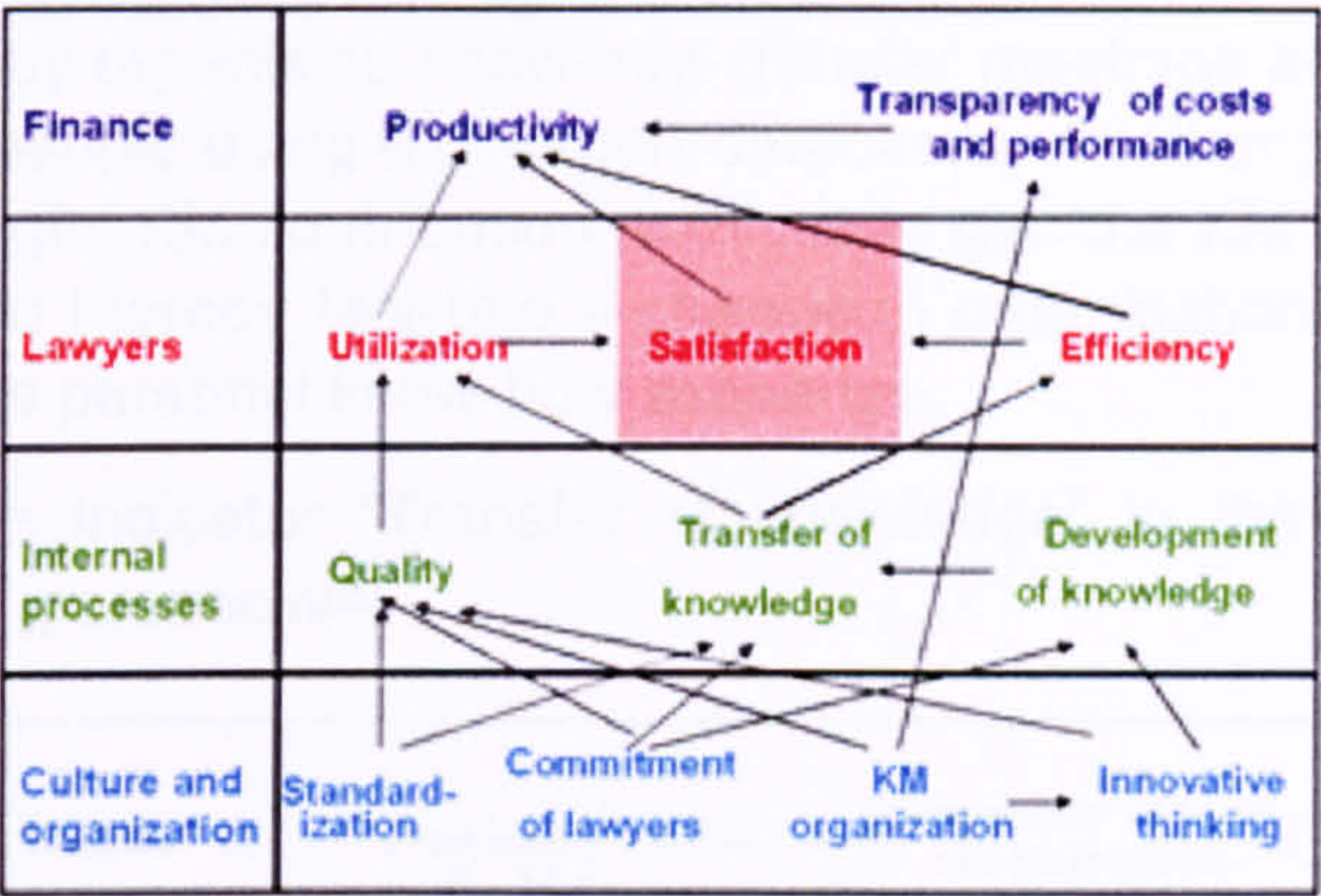
<i>R</i>	,366
<i>Explanation of predictor</i>	This predictor asks fee earners the question how valuable they find knowledge management to their work and to rate it from “Very effective” to “Not at all effective”. Value perception is therefore a very general predictor of the services provided for a fee earner.
<i>Interpretation</i>	<p>The author’s interpretation is that if KM is valuable to a fee earner’s work, this means he reuses know-how and therefore saves time and effort to do high value work. The importance of this first predictor for the variable fee income lies in two basic facts:</p> <ol style="list-style-type: none"><li>1. If a fee earner does not use KM, value perception will invariably go down. This positively correlated relationship was looked at and confirmed as a result of the analysis of</li></ol>



this chapter.

- 2. The question is phrased as “valuable to your work” and therefore establishes a connection between KM and value to the business. Fee earners see which proportion of their work is really billed on to the client and can therefore judge the value contribution.

*Place in success map* Part of the indicator “Satisfaction” in the “Lawyers” perspective.



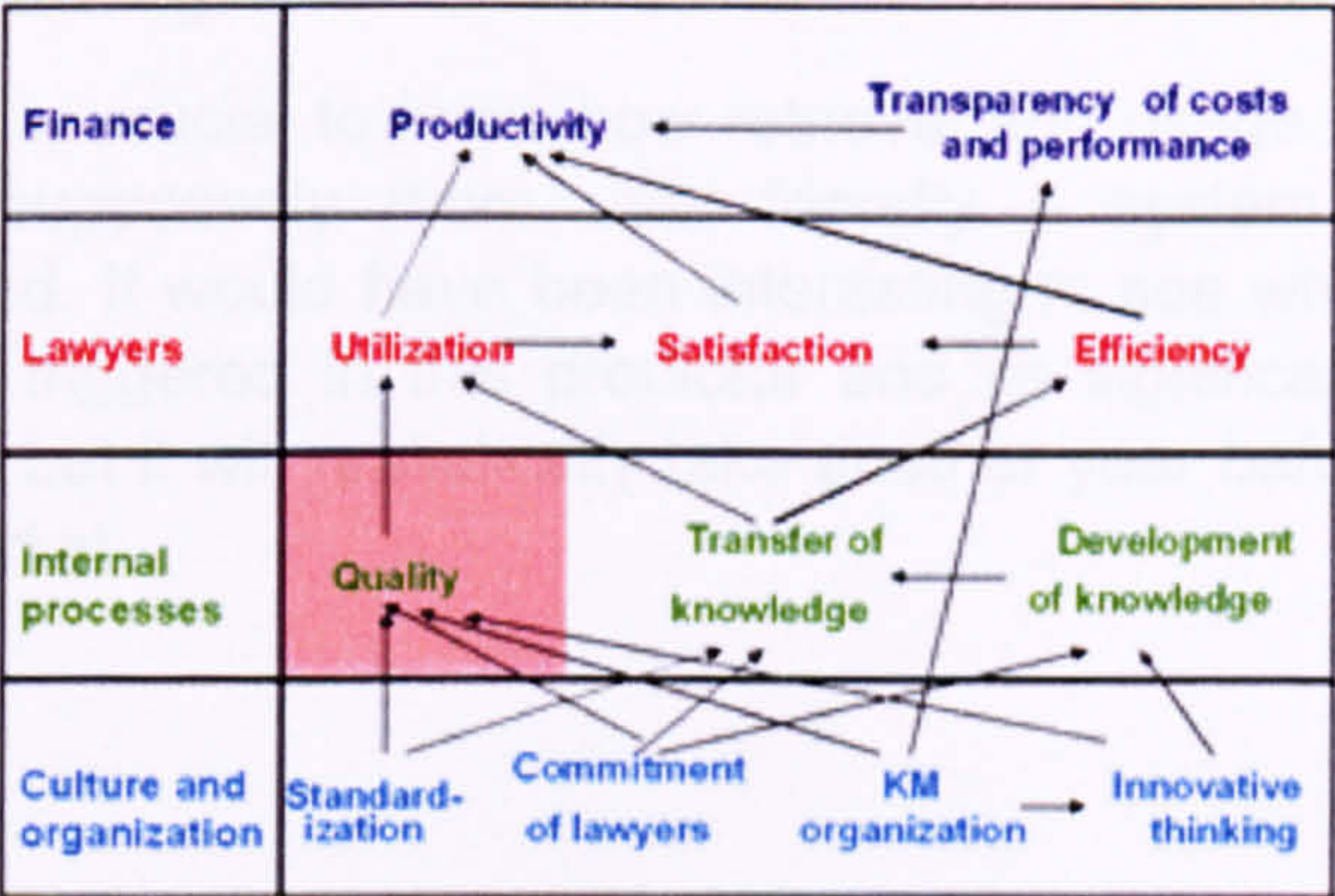
2. Counsel and legal opinions

R ,072 (up to ,438 from ,366)

*Explanation of predictor* This is a predictor provided by a fee earner survey for a core part of the know-how in the firm: Counsel and legal opinions.

*Interpretation* The KM function is responsible for maintaining counsel and legal opinions. Because they are key to legal work and hold high reuse potential, this influences fee income. From usage statistics the author could not determine what part counsel and legal opinions really form in overall know-how usage

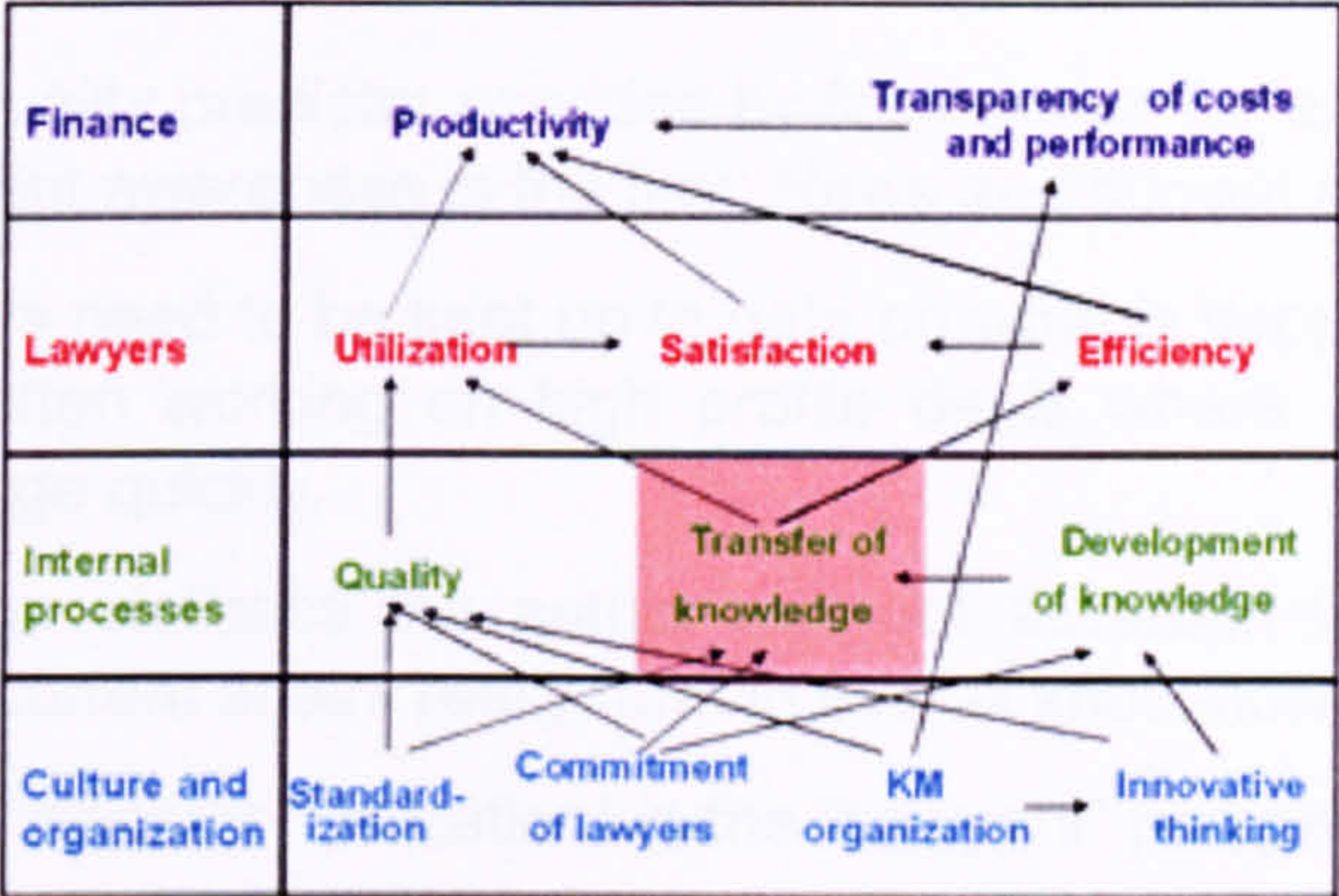
*Place in success map* Part of the indicator “Quality” in the “Internal processes” perspective.





3. Personal know-how exchange with peers

R	,038 (up to ,476 from ,438)
Explanation of predictor	This is a survey based predictor as well and basically asks how useful personal know-how exchange with peers is.
Interpretation	Personal know-how exchange with peers is a question of culture (see interview section for detail) and not necessarily within the remit of KM. KM however can help in facilitating this know-how exchange by organising know-how transfer meetings and linking people to people using e.g. expert databases. Another possibility for meaningful KM contribution to this is to get “the KM message across” and thereby facilitate a change in organisational culture that favours personal know-how exchange.
Place in success map	Part of the indicator “Transfer of knowledge” in the “Internal processes” perspective.



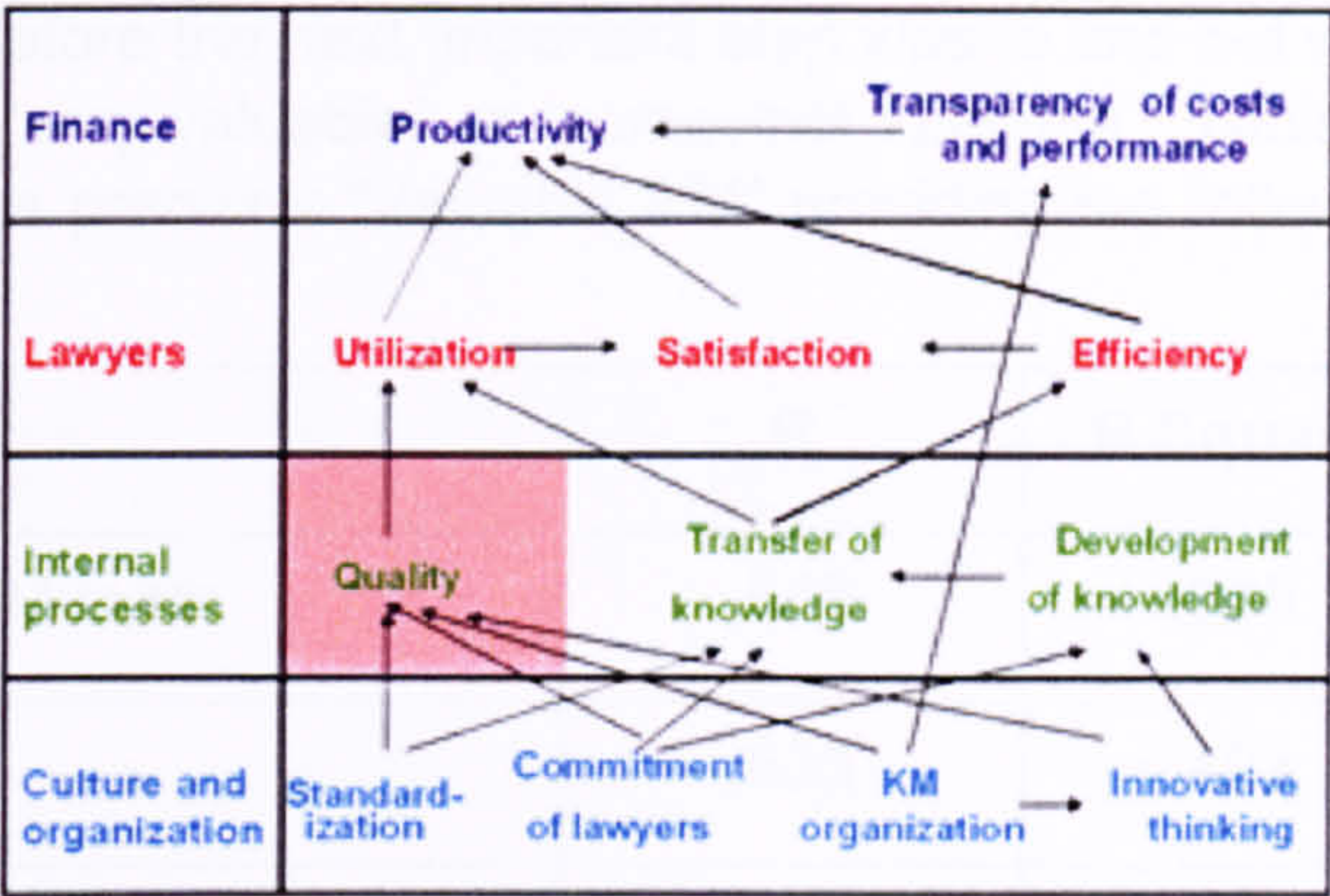
4. Ease of use of know-how systems

R	,025 (up to ,501 from ,476)
Explanation of predictor	This is a predictor that was introduced to see how user friendly KM systems are, but it also allows conclusions on levels of KM specific training.
Interpretation	Usability is crucial to know-how retrieval and usage. Recently a new – supposedly more user friendly – system has been introduced. It would have been interesting to see what changes this has triggered in this predictor and its significance for the question but it will realistically take another year before this can be looked at.



Place in success map

Part of the indicator “Quality” in the “Internal processes” perspective.



5. News and current affairs

R

,017 (up to ,518 from ,501)

Explanation of predictor

This is a quality predictor provided by fee earners for a core part of the current awareness in the firm: News and current affairs.

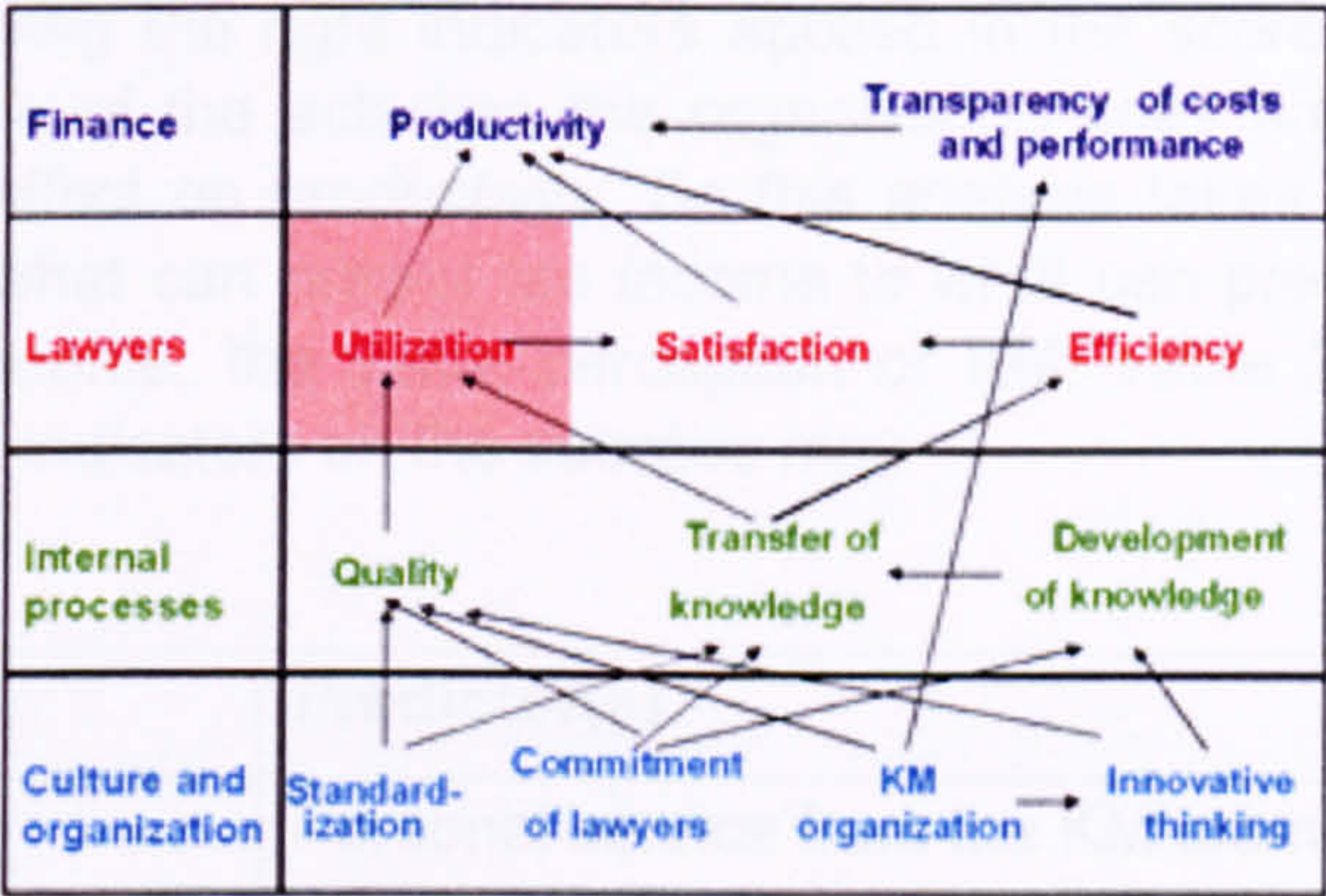
Interpretation

Fee earners need to be kept up to date on what is happening as they are often working on high profile deals where situations might change quickly.

From usage statistics the author can not ascertain what part news and current affairs really form in overall know-how usage.

Place in success map

Part of the indicator “Utilization” in the “Lawyers” perspective.





4.3.1 Stepwise regression model for value of KM

The most important predictor for fee income on the regression model is how valuable KM is to the fee earners. If anything is valuable to someone this implies usage or at least positive experience with it. Therefore the next important step was to find out what makes someone consider KM to be “very valuable” or “somewhat valuable”. Table 26 shows the stepwise regression for the predictor “Valuable KM” providing the following results:

Step	Predictor	R	R Square
1	Personal service from the KM team	,556	,309
2	Internal systems	,635	,403
3	Other Know How	,661	,437
4	Internal newsletters	,673	,454
5	Standard Forms	,681	,464
6	KMLs per PG	,690	,476
7	Job role	,696	,485

Table 26: Model summary for stepwise regression dependant on “Valuable KM”

None of the results in this regression comes as a substantial surprise, which up to this point is comforting in terms of having the right indicators applied in the scorecard. It raises the question though if some of the activities the organisation does are being done in vain, that is without real effect on productivity. So this analysis takes us one step down, from first determining what can predict fee income to what can predict the most important predictor of fee income, the value perception of KM. Table 27 puts these predictors in context with the indicators on the success map:

Indicator	Predictor(s)
Satisfaction	Personal service from the KM team
Utilization	Internal systems, Other Know How, Internal newsletters, Standard forms
KM organization	KMLs per PG
Commitment of lawyers	Job role

Table 27: Place of value perception predictors on success map



4.3.2 Direct correlations on fee income

Correlation gives an estimate as to the degree of association between the variables and is concerned with finding out the extent to which two variables are related to each other or tend to vary together. Therefore this section looks at other predictors related to fee income.

Fee income per fee earner (part of the productivity indicator) correlates with the following predictors:

Ratio of fee earners being serviced by a KML working for the global practice group

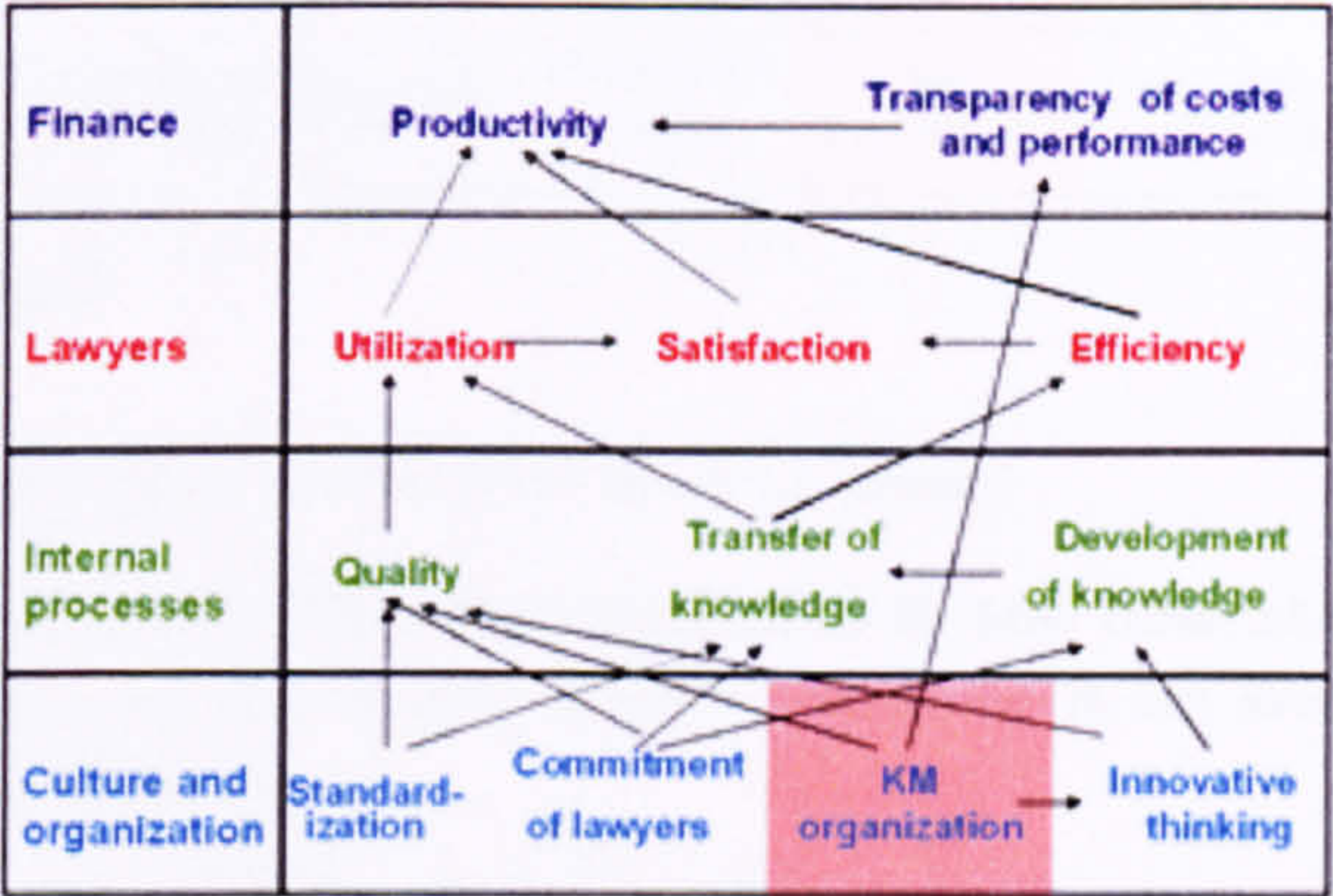
Pearson correlation +0,167, significant at the 0.05 level (2-tailed)

Explanation of predictor This predictor relates the number of fee earning staff to the number of dedicated knowledge management lawyers in this practice group that are working on know-how for the specific use of fee earners in this practice group.

As these numbers correlate, this indicates the more KMLs are working for a specific PG, the higher the fee income per fee earner.

Interpretation KMLs are playing an important role in creating, maintaining and distributing know-how that is reused by fee earners and is assumed to allow them to be more efficient.

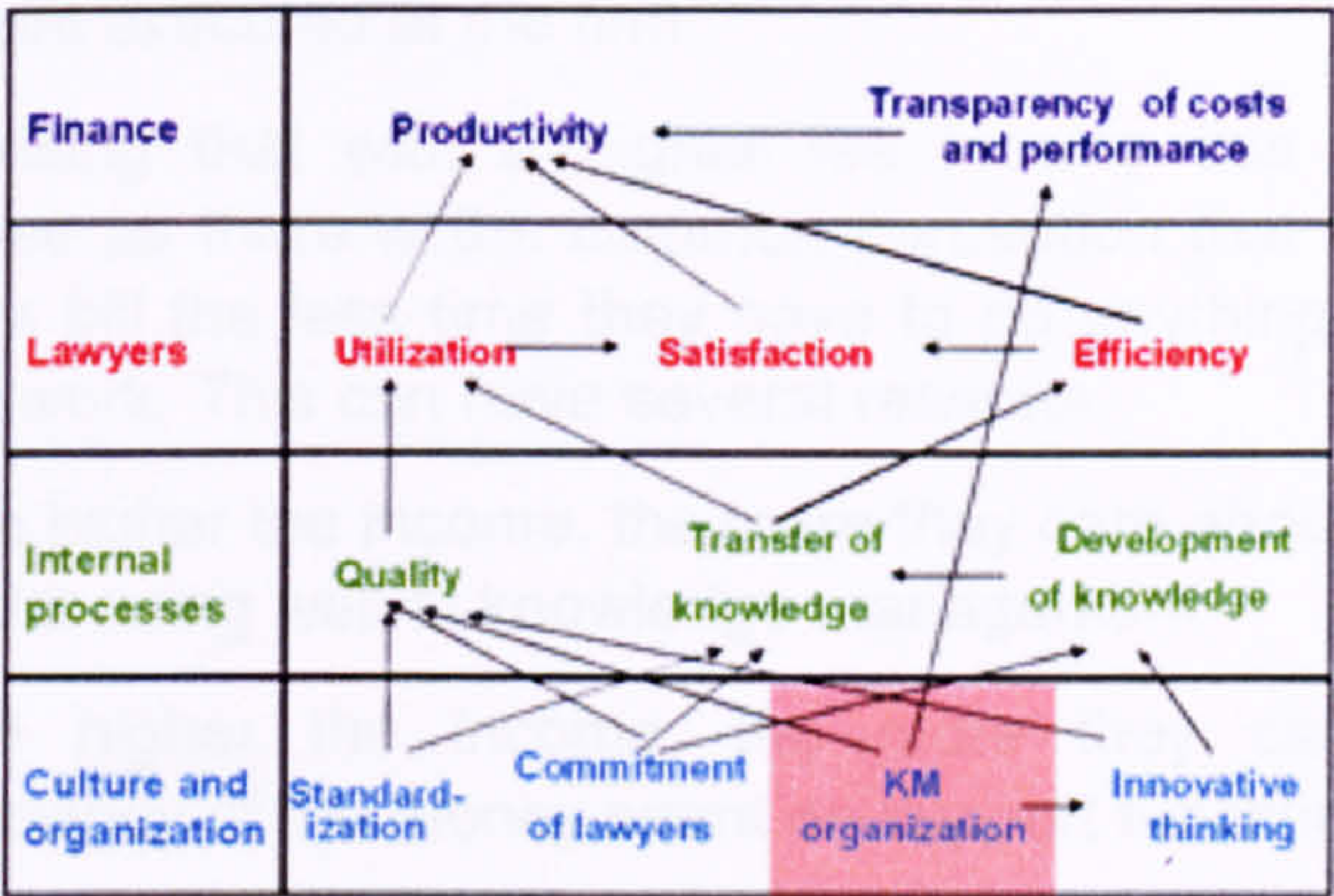
Place in success map Part of the indicator “KM organization” in the “Culture and organization” perspective





Ratio of fee earners being serviced by KML working for the local practice group

Pearson correlation	+0,207, significant at the 0.05 level (2-tailed)
Explanation of predictor	This predictor relates the number of fee earning staff to the number of dedicated knowledge management lawyers in this office and practice group that are working on know-how for the specific use of fee earners in this office and practice group. As these numbers correlate, this indicates the more KMLs are working for a specific local PG, the higher the fee income per fee earner.
Interpretation	The correlation is higher than it is in the case of KMLs working for the fee earners on a firm wide basis, which is understandable, as locally fee earners can expect more personal service and also other benefits such as knowledge of the local market and customs. Most KMLs used to be a fee earner in the local office or a comparable local firm.
Place in success map	Part of the indicator “KM organization” in the “Culture and organization” perspective



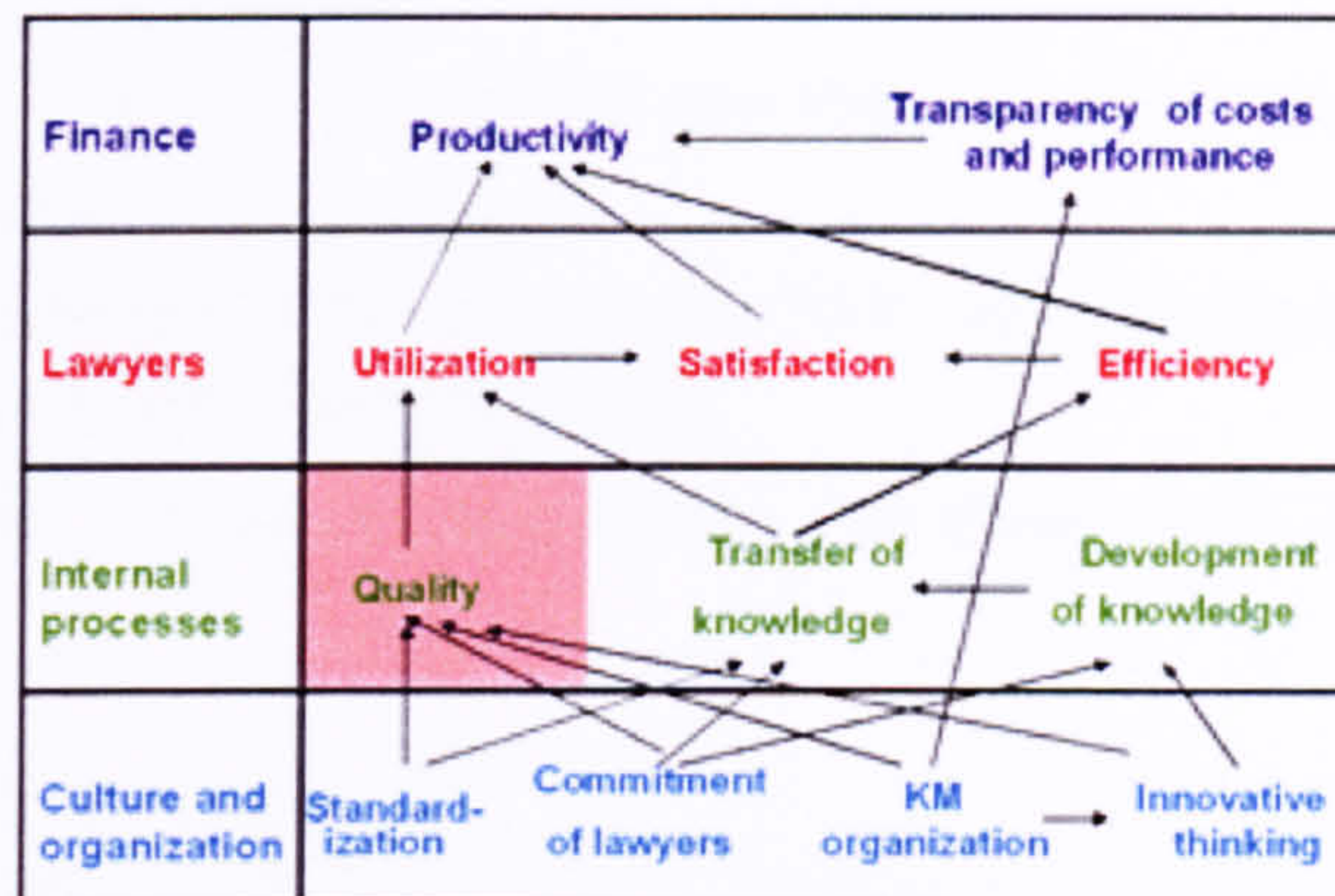
Ease of use of know-how systems

R	+0,110, significant at the 0.05 level (2-tailed)
Explanation of predictor	This is a predictor that was introduced to see how user friendly KM systems are but it also allows conclusions on levels of KM specific training.
Interpretation	Usability is crucial to know-how retrieval and usage. Interviewees. Recently a new – supposedly more user friendly – system has been introduced. It would have been interesting to see what changes this has triggered in this predictor and its significance for the question but it will realistically take another year before this can be looked at.



Place in success map

Part of the indicator "Quality" in the "Internal processes" perspective.



### Willingness to participate

*Pearson correlation* +0,153, significant at the 0.05 level (2-tailed)

Explanation of predictor

This predictor asks fee earners if they would be happy to attend workshops and interviews to improve the way knowledge management executed at the firm.

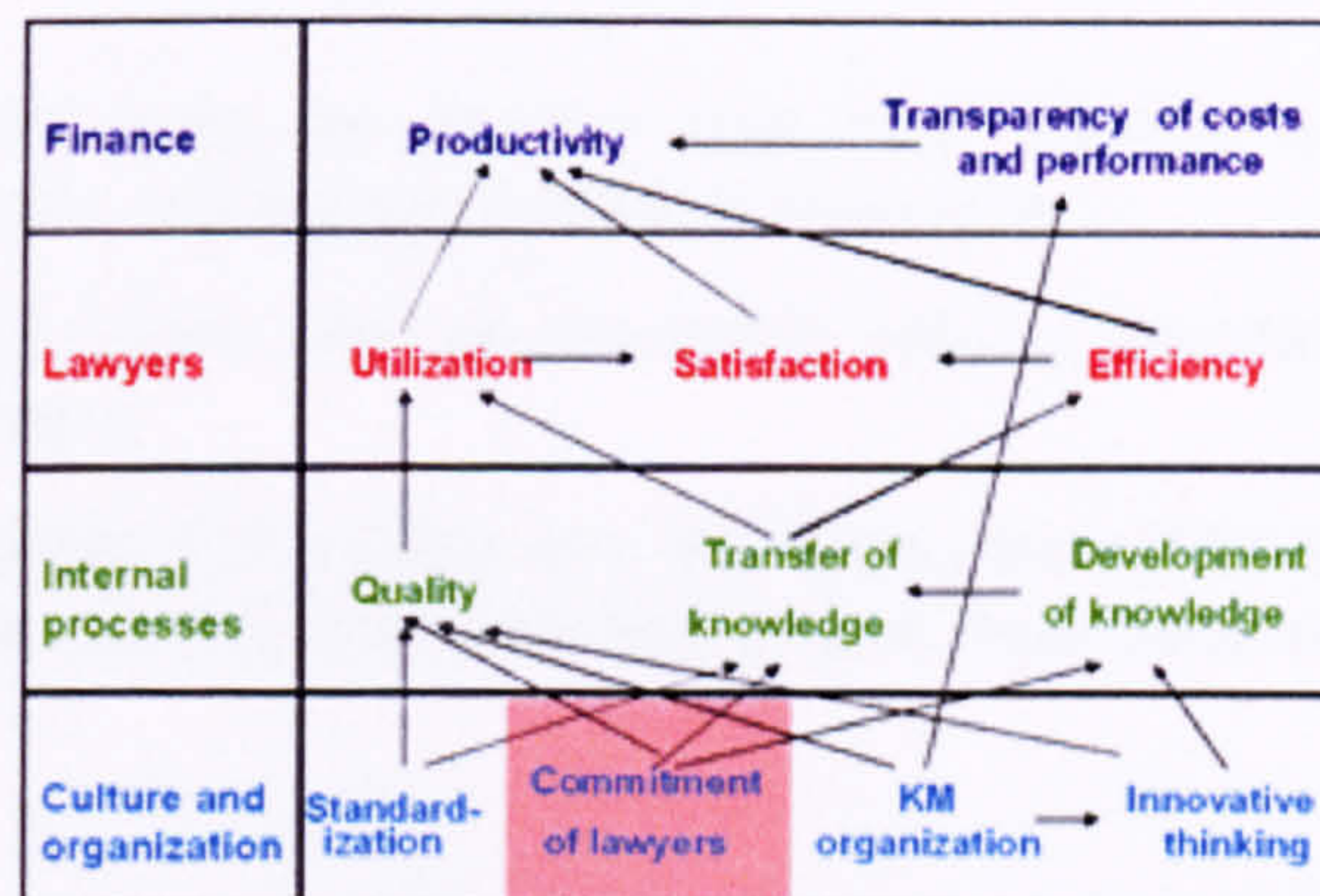
### Interpretation

It is surprising that with a higher fee income this predictor actually rose as there is the common perception that the more fee earners bill the less time they have to do anything else but core client work. This can have several reasons:

- The higher the income, the more they care about the firm and it doing well at knowledge management.
- The higher the income, the more they care about efficiency of the money spent on support functions.

Place in success map

Part of the indicator “Commitment of lawyers” in the “Culture and organization” perspective.





In addition to correlations on fee income here are also two important KM staffing ratios on direct interaction with fee earners:

- Fee earners per practice group KML  
This ratio describes the number of fee earners per KML on a firm wide basis.
- Fee earners per local practice group KML  
This ratio describes the number of fee earners per KML working with them locally (in their office and in their practice group).

Interestingly, only global KML provision significantly correlates with two other predictors:

**Information availability (speed)**

<i>Pearson correlation</i>	+0,117, significant at the 0.05 level (2-tailed)
<i>Explanation of predictor</i>	This predictor asks fee earners how quickly they can obtain the relevant know-how needed for their work.
<i>Interpretation</i>	<p>Global KMLs maintain the know-how systems and check if the know-how available is suitable to the work currently undertaken. They also influence the way systems work and have a say in taxonomies and presentation of know-how.</p> <p>The more good KMLs there are, the easier it will be for fee earners to find quickly what they need.</p>

**Quality of standard forms**

<i>Pearson correlation</i>	+0,148, significant at the 0.05 level (2-tailed)
<i>Explanation of predictor</i>	This predictor asks fee earners how they rate the quality of standard forms, the highest quality of know-how.
<i>Interpretation</i>	<p>Global KMLs create and are constantly refining standard forms to improve them.</p> <p>The more global KMLs there are, the more time will be spent on creating and refining standard forms, and thus improving their quality.</p>



4.3.3 Aggregated approach to analysis

In order to streamline the data and get a more practice group and office based approach, rather than looking at the individuals involved, the author decided to aggregate the data as a second step and thereby reduce the data sample to 118 cases. Doing this with SPSS functionality made sure no data would be lost while at the same time reducing data with a low confidence interval. Table 28 provides the results for the new dataset. Correlations were rerun over the full set again, giving strong direct correlation between fee income and the following predictors:

Predictor for fee income	Pearson correlation aggregated	Pearson correlation non aggregated
Ease of use of online systems	,214	,110
Provision of charge code for KM	,246	,068*
Personal know-how exchange w/ peers	,250	,099

\* designates non significant correlation

Table 28: Examples of correlation difference in comparison of aggregated and non-aggregated data

Table 29 provides the results for predictors on how valuable KM is perceived as a comparison to the model done before aggregation of data. The results do not differ significantly:

Step	Predictor for fee income	R	R Square
1	Personal service from the KM team	,656	,431
2	Email alert from KM team	,723	,523
3	Quality of online systems	,795	,632
4	Information availability (speed)	,822	,675
5	Standard forms	,843	,711
6	Business market and company news	,871	,758

Table 29: Model summary for aggregated data stepwise regression dependant on "Valuable KM"



4.4 Emerging themes

To determine the key predictors for the most important desired outcome of KM, rising fee income, the combined findings of sections 4.3 as well as 4.3.1 were revisited and combined in Figure 13. This was done by taking the results from the stepwise regression on fee income and on its most important predictor, value perception. It now shows which predictors are most important as drivers for improved performance. The graphic below is the key message to take away from this chapter and relevant for the following chapters. It shows how value perception is the most dominant predictor for fee income, and also how both, fee income and value perception can be predicted. This shows what is relevant for determining the value of KM to the business. Figure 13 graphically displays these relationships:

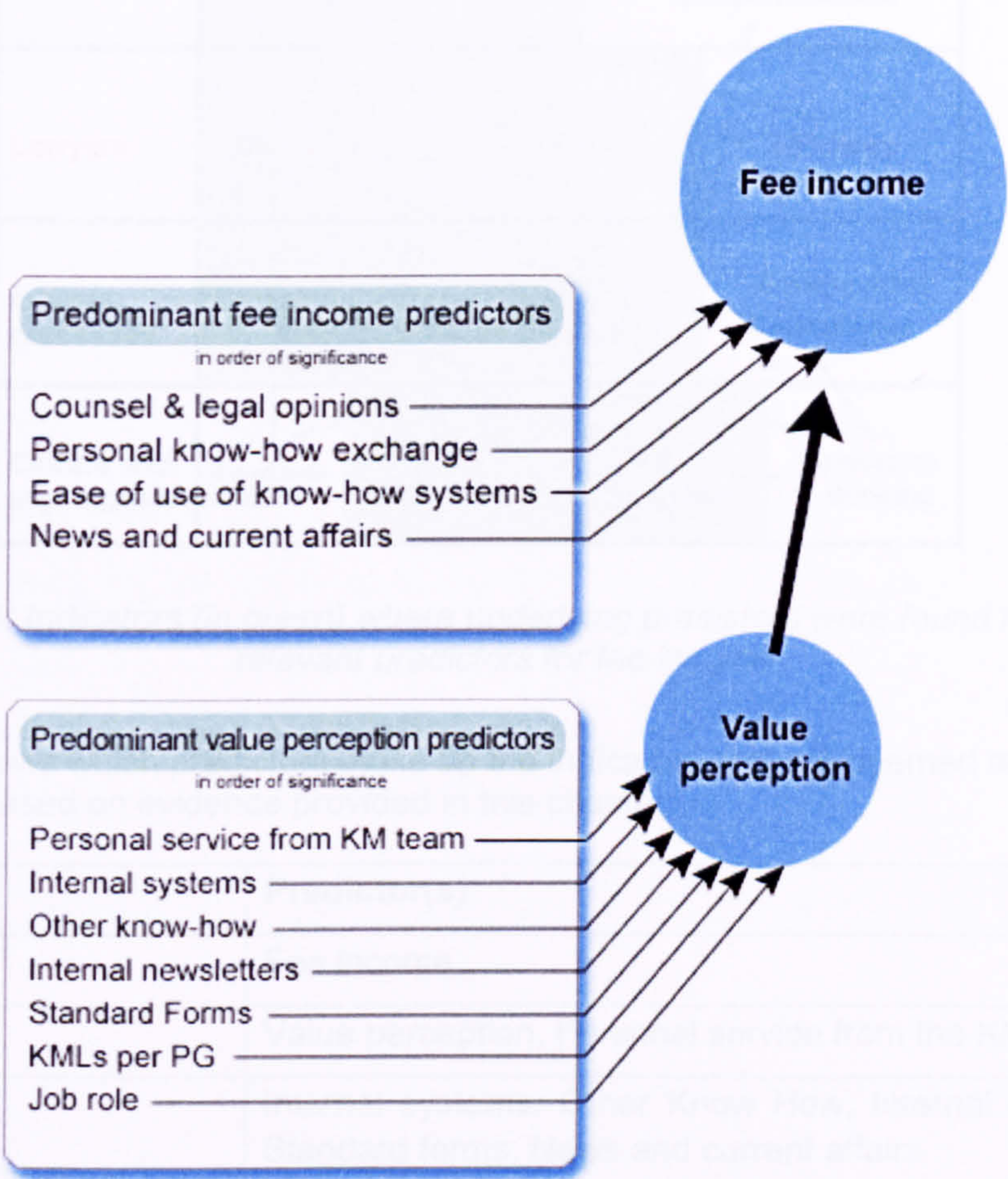


Figure 13: Emerging themes for predominant predictors

By mapping the significant predictors onto the indicators on the success map, the success map can be updated to show what is relevant for predicting productivity (fee income). This leads to an updated view on the success map, taking into account what could be supported by evidence from this chapter. In the figure below the parts of the



success map that could be supported by evidence for predicting the major goal of fee income are shown in green. This does however not mean that efficiency or the development of knowledge are irrelevant for the success of KM, it merely means the predictors subsumed under this indicator could not be confirmed as relevant to the Finance perspective. This could be because they are actually irrelevant or that there is a misinterpretation of the term efficiency within the organisation. Indicators that were not found significant were discussed in the focused interviews and chapter 7 will show some of them back on the success map after further analysis. Figure 14 shows the indicators that could be supported by evidence presented in this chapter:

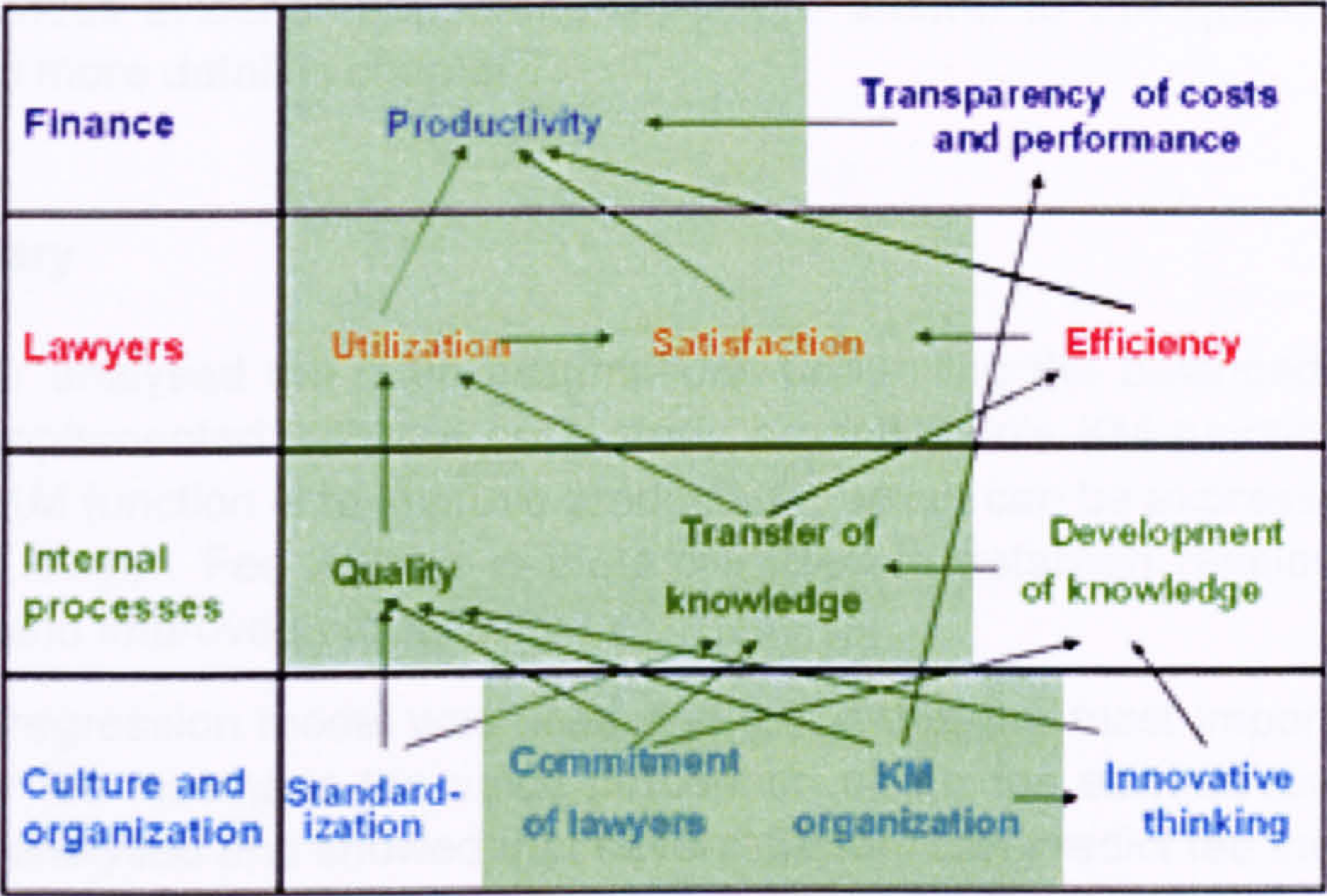


Figure 14: Indicators (in green) where underlying predictors were found to contain relevant predictors for fee income

Table 30 shows which predictors make up the indicators that are deemed relevant at this stage, based on evidence provided in this chapter:

Indicator	Predictor(s)
Productivity	Fee income
Satisfaction	Value perception, Personal service from the KM team
Utilization	Internal systems, Other Know How, Internal newsletters, Standard forms, News and current affairs
Quality	Counsel & legal opinions, Ease of use of know-how systems,
Transfer of knowledge	Personal know-how exchange,
KM organization	KMLs per PG
Commitment of lawyers	Job role

Table 30: Place of fee income and value perception predictors on success map



The meaning of the analysis at this stage is that 12 out of the initial 48 predictors could be confirmed as relevant to the overall goal of raising productivity. These 12 predictors cover 7 out of the 12 initial indicators on the success map. It is important to understand that these predictors were looked at on a firmwide view and not specific to single countries or practices. The suggested relationships on the success map that did not hold will be looked at in the interview section to find possible reasons why they did not hold.

In relation to research question 1 ("Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?") this chapter provides evidence supporting a positive answer to this question. This will be discussed in more detail in chapter 7.

## **4.5 Summary**

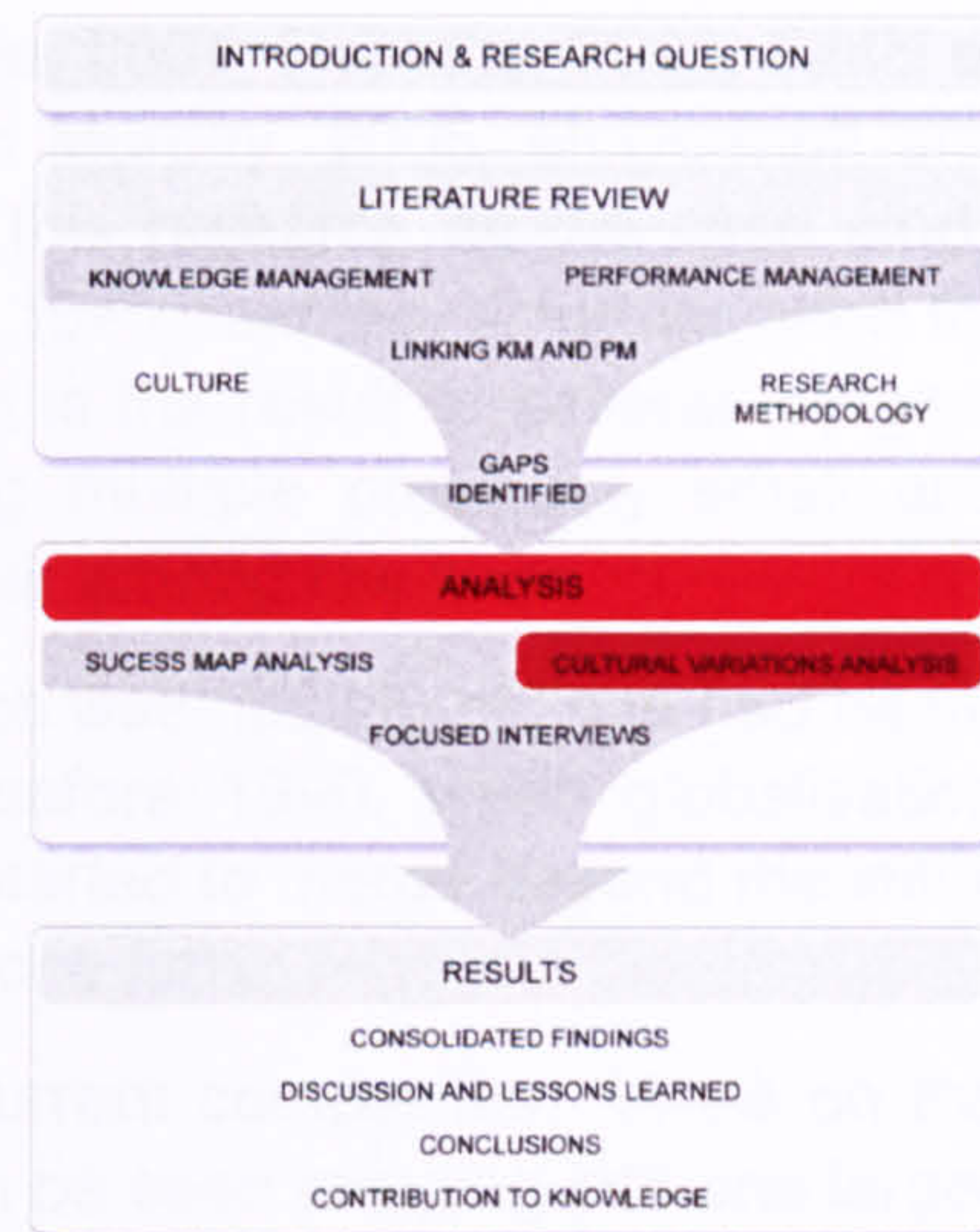
This chapter analysed the main assumptions underlying the balanced scorecard that has been implemented with the case study organisation's KM function. The ultimate goal of the KM function is to improve productivity, which can be expressed in higher fee income per lawyer. Fee income is therefore used to establish relationships between KM activity and improved productivity.

A stepwise regression model was used and found that the most important KM related predictor for fee income is the value perception of the fee earners towards KM. This was further analysed and showed that several factors can predict fee income.

These predictors will be looked at in the next chapter in terms of their applicability across cultures.



## 5 Analysis II: Cultural Variations Analysis



Without knowledge action is useless and knowledge without action is futile.  
*Abu Bakr (573-624)*

### 5.1 Introduction

This chapter investigates the variations of key performance predictors identified in chapter 4 and establishes patterns valid across different cultures within the case study organisation. This chapter is divided in three main sections:

#### 5.2 Applying Hofstede's layers of culture

This section provides descriptive analysis of predictors found to be relevant for the success map and looks at differences according to two layers of culture: Regional level and organisation/generation level. The results are interpreted based on the experience of the author in the legal KM environment. *Please note: These are interpretations, not empirical analysis, and are meant to show the reader possible explanations for the differences found in order to enable better understanding of the legal KM environment. The interpretations by the author are in italics throughout this section.* The aim of this section is to show how predictors differ across regions and tenure.

#### 5.3 Statistical significance of the descriptive findings

This section assesses the statistical significance of relationships between the layers of culture and the predictors analysed descriptively in the step above with the aim to determine which of the descriptive findings are statistically significant and therefore which predictors are really influenced by culture.

#### 5.4 Applicability of cultural dimensions

This section tests the applicability of Hofstede's cultural dimension model by identifying predictors that correspond with perspectives of the model.



The aim of this section is to provide guidance as to whether dimension models can be applied to a performance management framework measuring knowledge.

This look at cultural variations is necessary as PM and IC literature has alluded to culture being important (Ford and Chan, 2003; Tschida, 2004; Robbins, 2003; Bititci et al., 2004; Schulz and Klugmann, 2005, Pauleen and Murphy, 2005, McDermott and O'Dell , 2001) and culture may also be an issue in this research as the case study organisation is an international law firm with offices in 15+ countries. A further need for this in relation to the case study organisation is that it is the result of several mergers within the last decade of the 20<sup>th</sup> century, merging multiple previously small and independent law firm partnerships into one global leader among law firms.

It needs to be stated at this point that a law firm as such was nothing anyone had heard of for example in the German speaking countries before 1990, when globalisation started to also affect cross-border mergers and firms started to merge beyond the initial partnership structure of hardly more than 5 lawyers in one firm.

Figure 15 shows the merger activity leading to the current composition. While on the right side of the figure a multitude of German firms can be seen merging into one larger law firm together with an Austrian firm, on the left side two initially already large law firms with global reach merged into a British/German firm with worldwide offices then finally merging into one global firm.

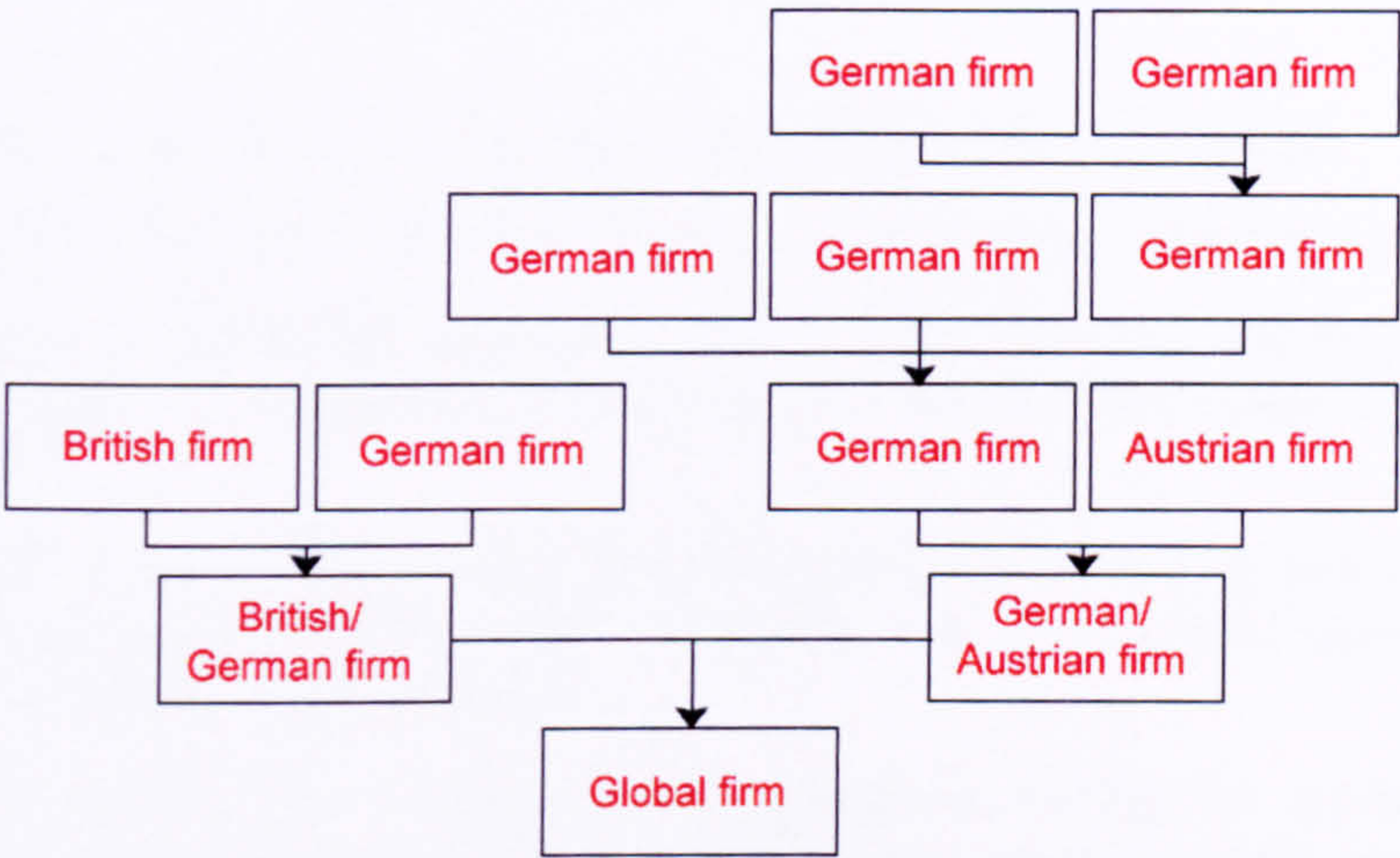


Figure 15: The case study organisation from 1990 - 2000



5.1.1 Reminder: Origin of survey data

The survey was administered to a representative sample of the case study organisation, with every practice group, office and region being asked to participate according to their share of the total organisation. Responses were collected over a period of one month and a reminder was sent out in the middle of the expiry time to those who had not yet responded. Table 31 shows the response rate and other relevant data for the questionnaire used in this research:

User awareness & satisfaction survey	
Response rate	> 70%
Total responses	> 400
Fully valid responses	> 85%
Coverage	All roles (Partner, Associate, Trainee, other) All offices (25+ on 3 continents) All practice groups (8)

Table 31: Key figures on survey used for analysis

The questionnaire consisted of 21 questions divided under 7 headings:

1. Personal information on office, region, practice group, job role and tenure.
2. Value of KM to the business: One choice question asking for the value perception of KM among fee earners, one open-ended question to explain the rating
3. Access: One multiple-choice question asking for a ranking of five methods for accessing knowledge by their efficiency, one open-ended question to make suggestions for improvement
4. Contributions: Two multiple-choice questions asking for a ranking of five methods for contributing knowledge by their efficiency and one open-ended question asking for suggestions for improvement.
5. Current Awareness: Two multiple-choice questions asking for a ranking of five methods for keeping up to date by their efficiency and one open-ended question asking for suggestions for improvement.
6. General: Open-ended question for lessons learned
7. Commitment: Two yes/no questions on future participation in interviews/workshops, one free text question for name of respondent (optional)

For details on the questionnaire, please refer to chapter 3.3.3.1

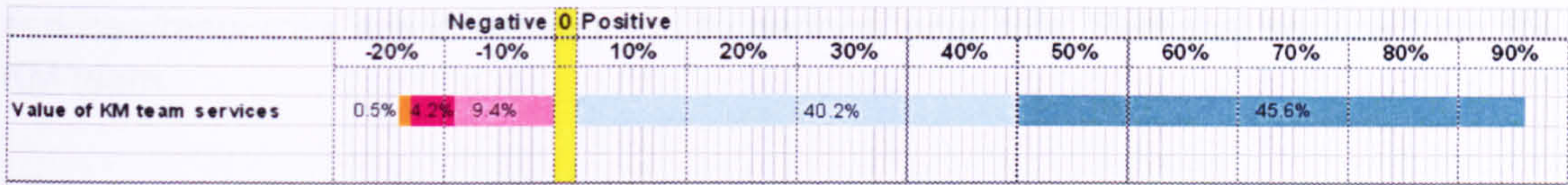




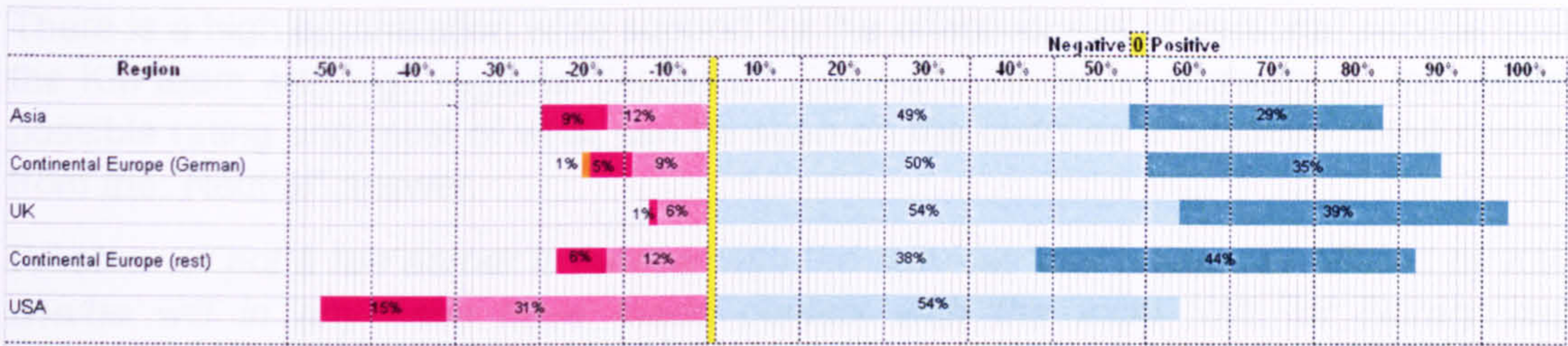


5.2.1.1 How valuable is KM to the fee earners?

This is the question that stands behind the predictor identified as being one of the key drivers of fee income: The question in the survey that feeds into the predictor is: *Generally speaking, how valuable (in terms of the impact they have on the way you work) are the services that the KM team provides?*



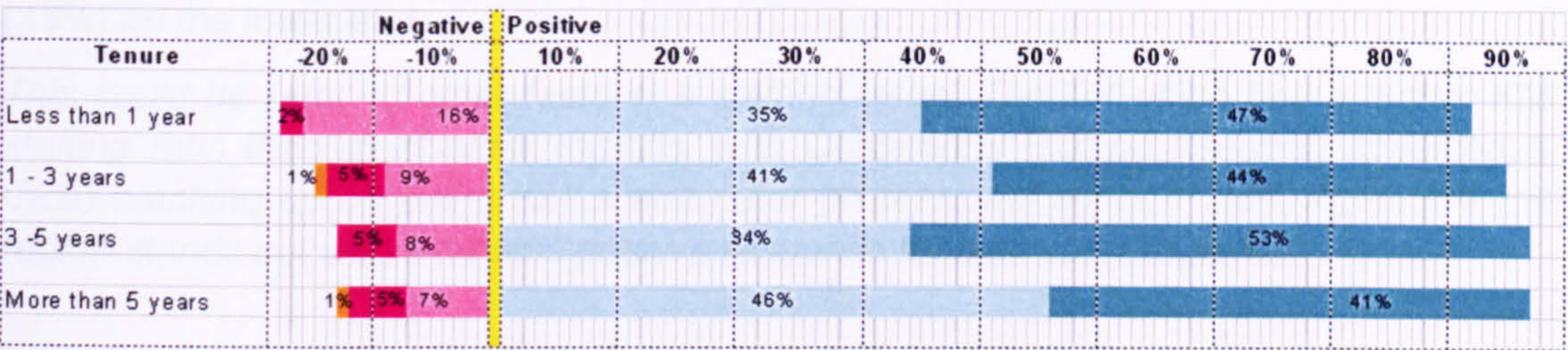
Firm wide, the support for “Value of KM” is very high, 85% in the positive, which can be regionally split up as outlined below.



Split up by region, there is an interesting difference in value perception, with the Region USA having the biggest deviance from the Firm wide numbers:

Only 54% consider KM positive and 46% negative. The highest positive rating is in UK with 93% positive and 7% negative.

USA is traditionally a region where everything that is not billed is seen as a waste of time and even librarians need to be accountable for every minute they spend with the potential to be billed to a client. The high positive ranking in the UK could be due to the fact that KM has a very long tradition in this office. The UK office was the first adopter of the professional support lawyer (PSL) role, a KM role designed to work closely with the fee earners and guiding them through knowledge resources.



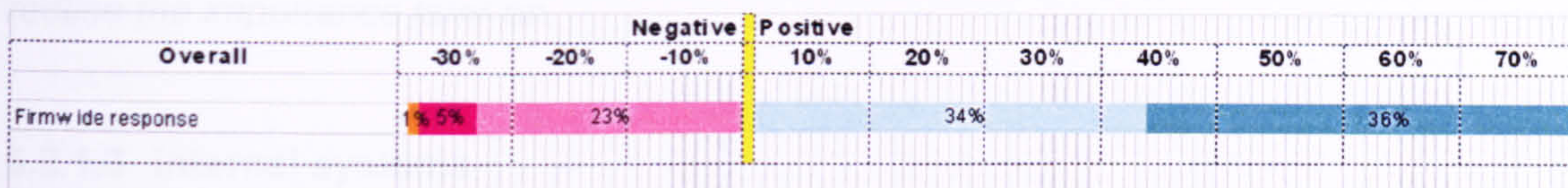
There is also a small but recognisable pattern in KM becoming more important with longer tenure.



*For fee earners being with the firm less than a year little exposure and familiarity with the KM systems might be a reason for a less positive rating, while fee earners with longer tenure start recognising the importance of KM.*

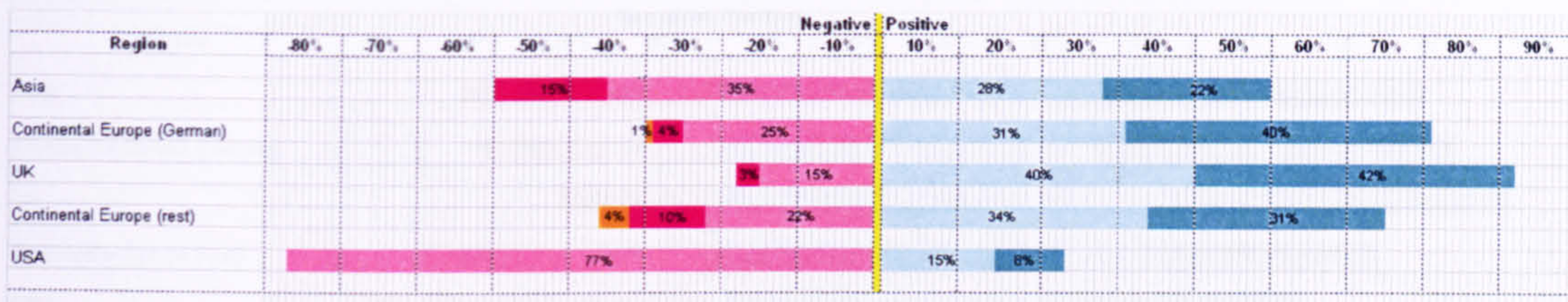
### 5.2.1.2 Personal service from the KM team

The question in this context was: Please indicate how effective these KM services/resources are in helping you to perform your role: Personal service from the KM team.



There is a high organisation wide support for the effectiveness of personal service from the KM team with high regional deviance. There are almost no answers on the lowest possible rating and most of what can be seen on the chart as a negative rating comes from the "Neutral" answer.

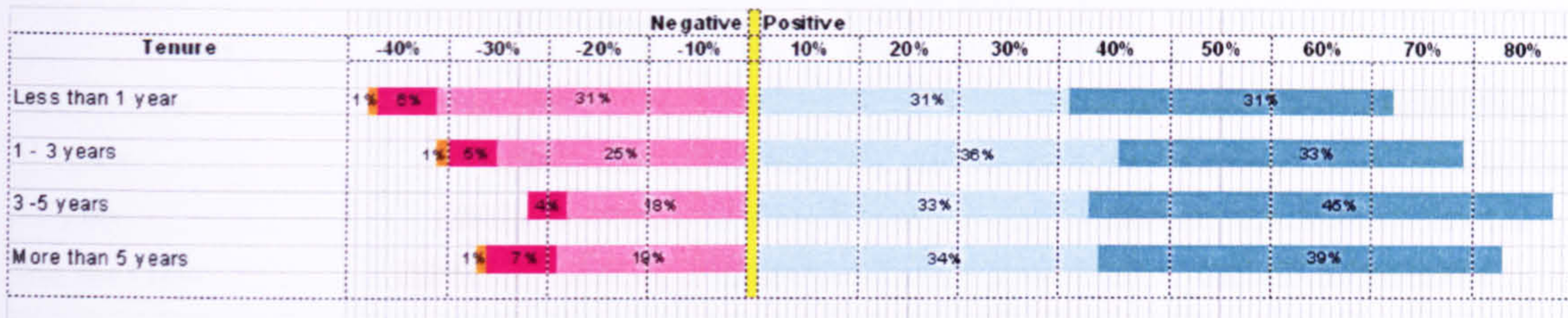
*Whether or not a fee earner is familiar with the services and resources offered by KM, she/he will in any case have made contact with the local KML or Library and information services (LIS) team, either through training or through personal contact when in need of know-how.*



The highest value for effectiveness of personal service from the KM team can be found in the UK office (82% positive), followed by Continental Europe (German speaking & CEE) (71%) and Continental Europe (rest) (65%) and with Asia (50%) and the US (23%) on the lower end.

*This could be (among other factors) a staffing issue. The UK office has a higher KM staffing ratio than most other regions, with Continental Europe (German speaking & CEE) catching up on hiring KMLs and other professional support staff. Again the US region stands out with a far less positive response than all other regions.*



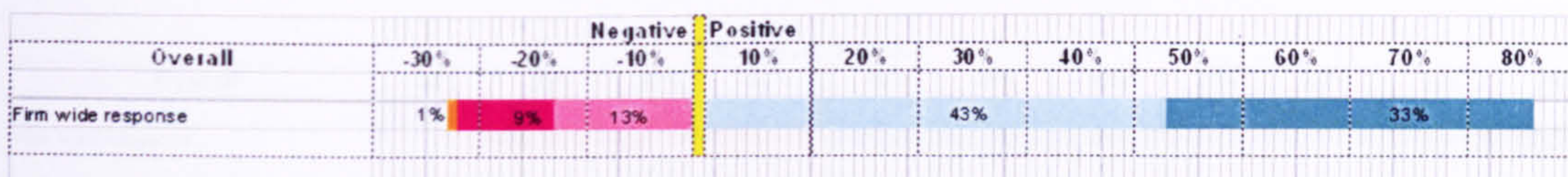


The effectiveness of personal service from the KM team is rated highest by fee earners in the “3-5 years” segment (78% positive) and for “More than 5 years” (73%) and decreases with shorter tenure.

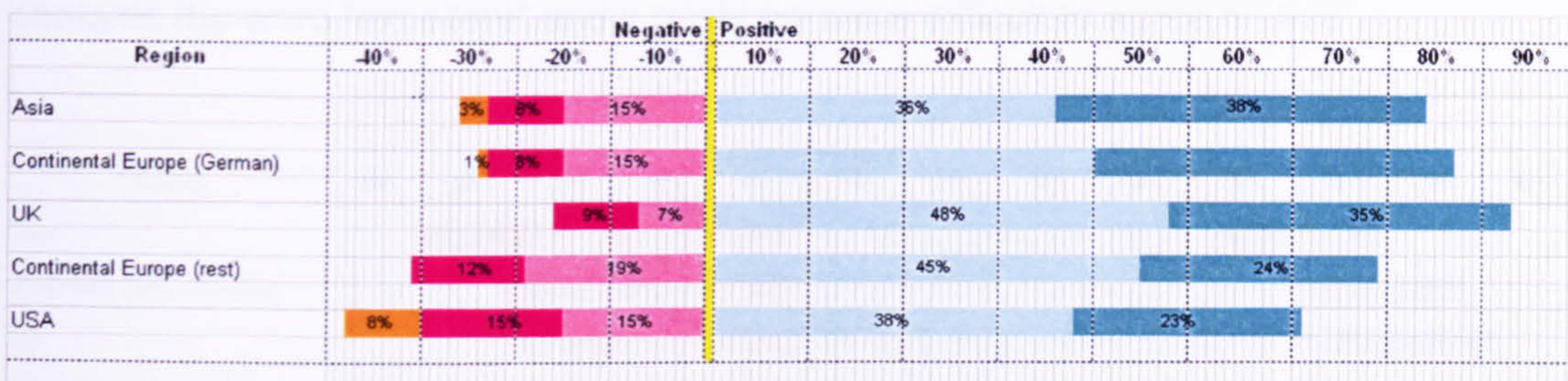
*Fee earners seem to have more contact with KMLs at the beginning of their career and realise the importance later on.*

### 5.2.1.3 Internal systems

The question in this context was: *Please indicate how effective these KM services/resources are in helping you to perform your role: Internal systems.*



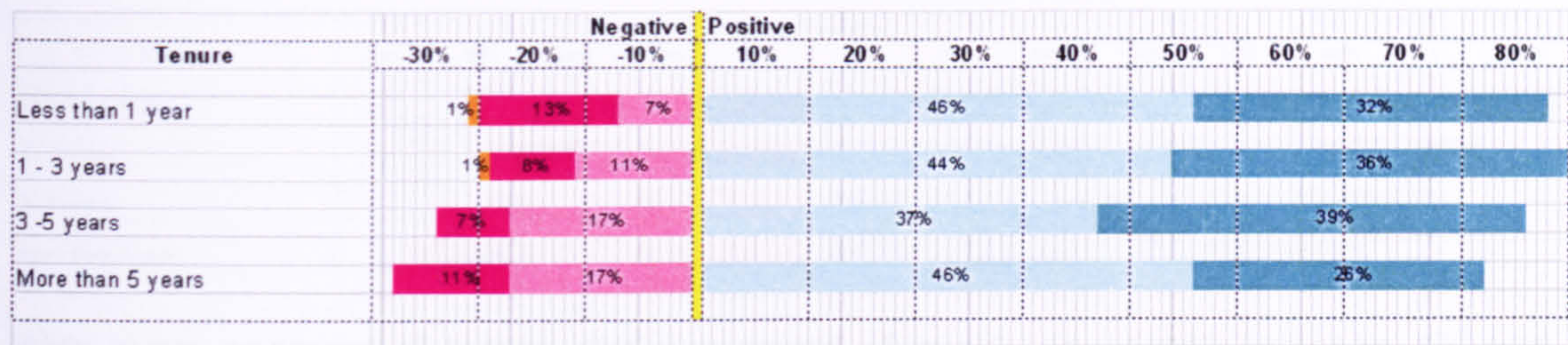
Overall the positive rating is high (76%) with only 10% being in the “not very effective” or “not at all effective” segment for the effectiveness of internal systems.



UK is leading satisfaction with the effectiveness of internal systems (93%) before Continental Europe (German speaking & CEE) (87%) and Asia (84%) and lower satisfaction in Continental Europe (rest) (69%) and USA (61%).

*Internal systems were locally provided at the time of the survey and it remains to be seen if one central system will change this perception. UK has the longest established systems, while Continental Europe (German speaking & CEE) had recently put a lot of effort into a successful project to establish internal know-how systems.*





The effectiveness of internal systems split up by tenure remains within the 80 – 90% scale with slight decline in the “More than 5 years” segment.

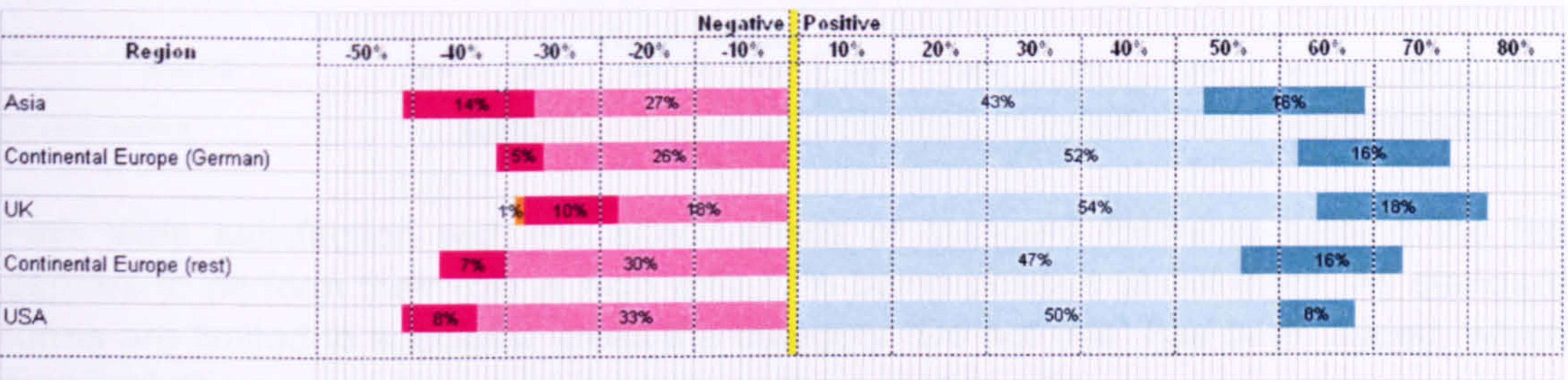
There are very few entirely negative ratings. They come mainly from the USA region and entirely from fee earners with less than three years experience.

5.2.1.4 Quality of online systems

The question in this context was: Please indicate the extent to which you agree or disagree with each of the following statements: The information in the firm's online systems is of excellent quality.



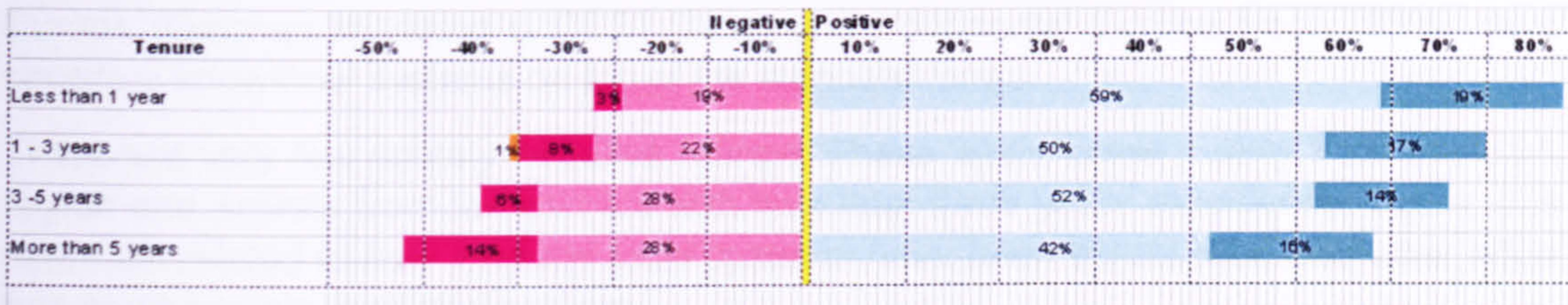
Overall agreement on this question is 67% which is not very high compared to other questions, but in this case the goal was set very high by the question itself, which contains the word “excellent” and it might be more difficult to agree on this.



UK (72%) and Continental Europe (German speaking & CEE) (68%) are again among the highest ratings for excellence of information quality in the case study organisation’s online systems, followed by Continental Europe (rest) (63%), Asia (59%) and USA (58%).

There are very few entirely negative ratings. These again come mainly from the USA region and entirely from fee earners with less than three years experience. *Again, this might be related to how long the local systems have been established and what effort has been put into maintaining them.*





With every segment of tenure, the perception of quality decreases between 4% and 8%.

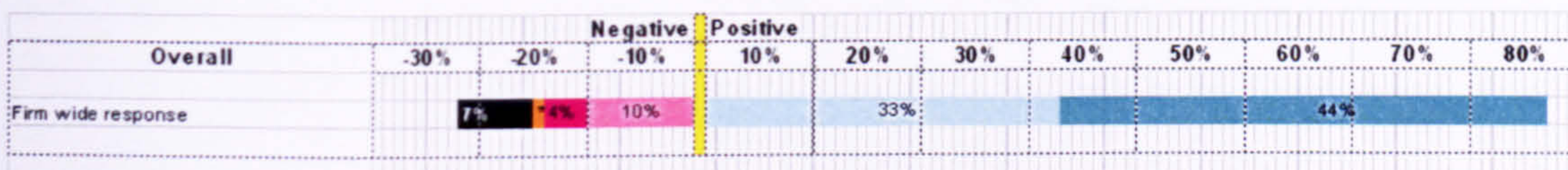
The judgement of information quality decreases steadily with increasing length of tenure. *This could be due to standards being raised constantly and comparison with knowledge gained by the fee earners themselves as they become better trained in their subject area.*

### 5.2.1.5 Standard forms

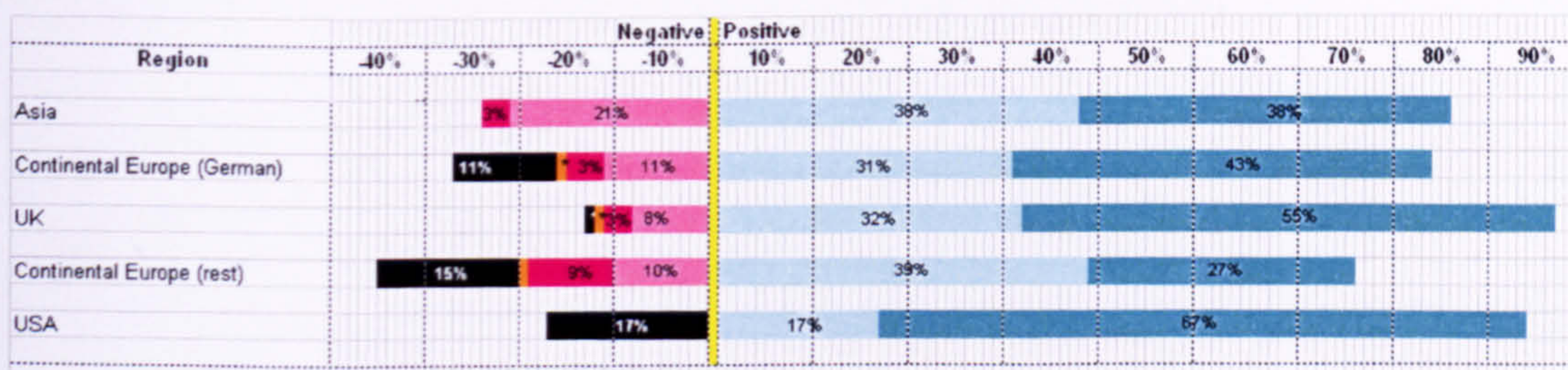
Please note: different colour code:



The question in this context was: *"Listed below are various materials that are contained in the firm's internal KM systems. Please indicate how effective this material is in helping you to perform your role:"* Standard Forms



Firm wide satisfaction with the effectiveness of standard forms in helping the fee earners to perform their role is high with 77% being positive about them. As standard forms are limited to specialist areas the category "Do not use" has been added, which for simplicity reasons shows up in black on the negative side.

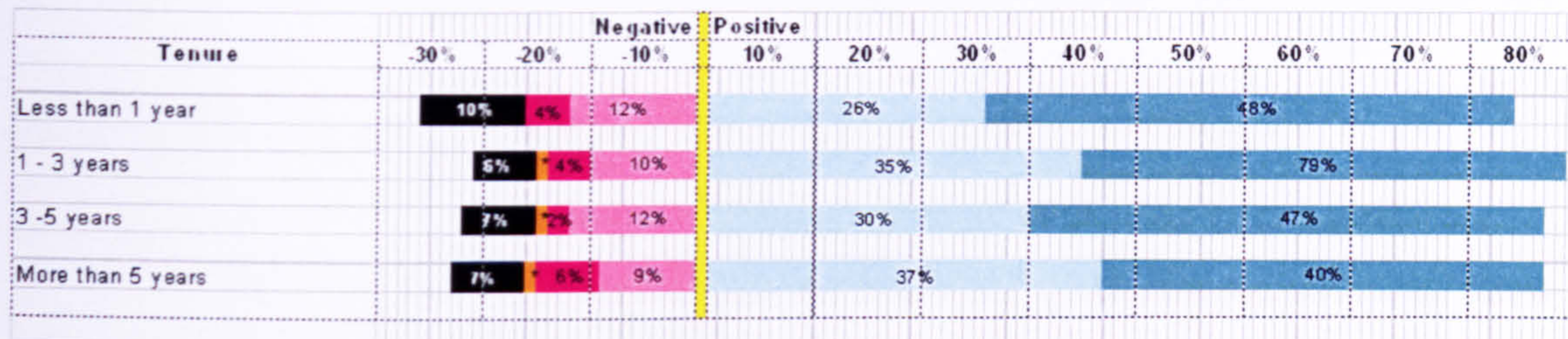


Effectiveness is judged highest in the UK (87%), the USA (84%) and Asia (76%), where standard forms are the major means of know-how reuse whereas Continental



Europe (German speaking & CEE) (74%) and Continental Europe (rest) (66%) have separate know-how systems on top of the standard forms.

There are very few entirely negative ratings. These again come mainly from the USA region and entirely from fee earners with less than three years experience. *Again, this might be related to how long the local systems have been established and what effort has been put into maintaining them.*



There is only minor deviance when looking at differences by length of tenure.



5.2.2 How to foster a knowledge sharing culture

„ (Law firms) are able to create competitive advantage ... and thereby indirectly demonstrating the contribution of information to business value. However, for such knowledge sharing to be successful, organisations must create a culture whereby knowledge sharing is both encouraged and rewarded”

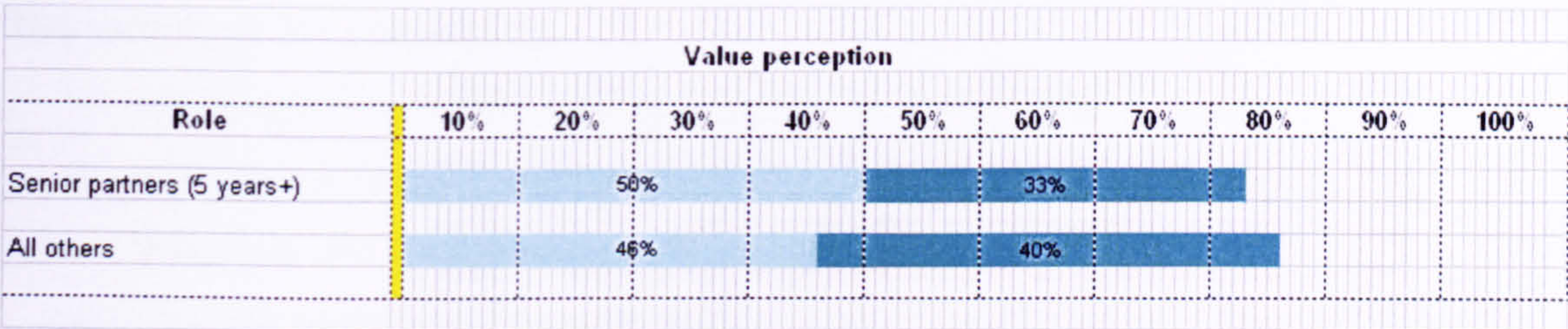
Broady-Preston and Tegwen (2004), p. 134

In this section the author decided to look at two questions in more detail:

- 1. The often cited “need for support by senior partners” for KM practices.
- 2. The answers that were given by fee earners to a question on how they could be motivated to share knowledge.

5.2.2.1 Support by senior partners

The author decided to look at three factors to determine support by senior partners (5 years+ at the firm) in comparison to the rest of the firm: Value perception, willingness to participate in an interview where KM is being discussed and willingness to participate in a workshop where KM is being discussed.



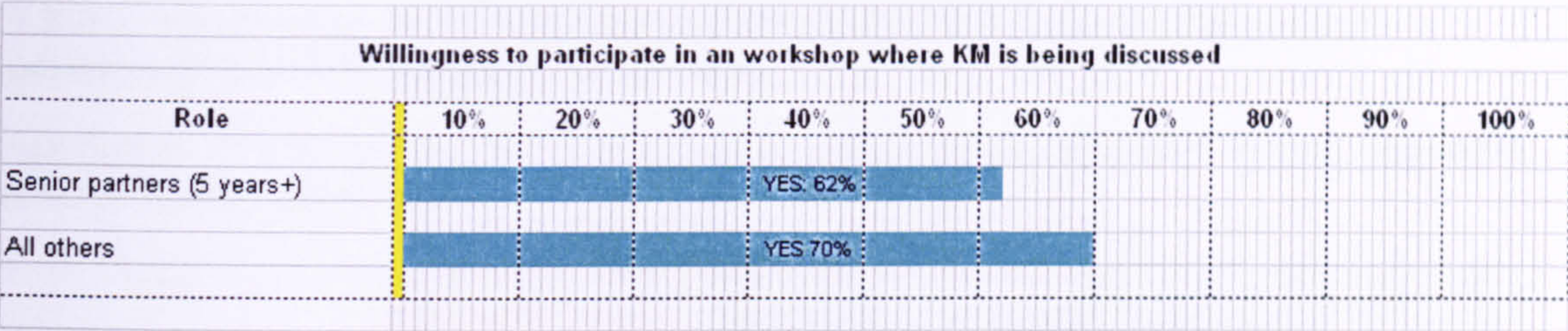
Value perception

Value perception is slightly different with more non senior partners choosing “very valuable” (40% compared to 33% among senior partners) and more senior partners choosing “somewhat valuable” (50% compared to 46% non senior partners). Overall a positive value statement is 82,9% positive among senior partners compared to 85,8% positive in the rest of the firm.



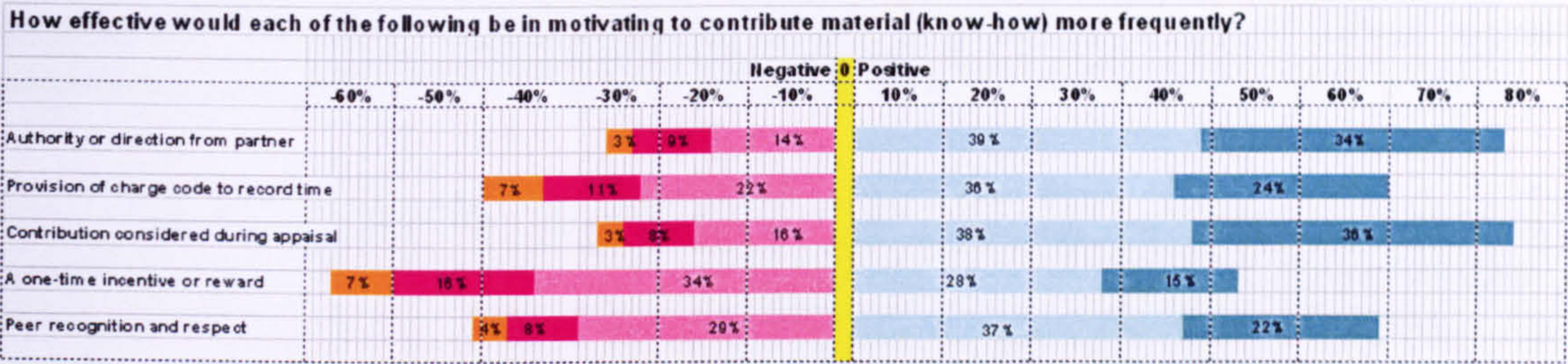
Willingness to participate in an interview where KM is being discussed





Willingness to participate in a workshop where KM is being discussed

These two questions show more commitment for an interview among senior partners (87% versus 74% for all others) and less for a workshop (62% versus 70% for all others). This could be because workshops are seen to take more time than interviews. The second question important in relation to culture was: “How effective would each of the following be in motivating you and others to contribute material more frequently?”



The ranking of the responses is:

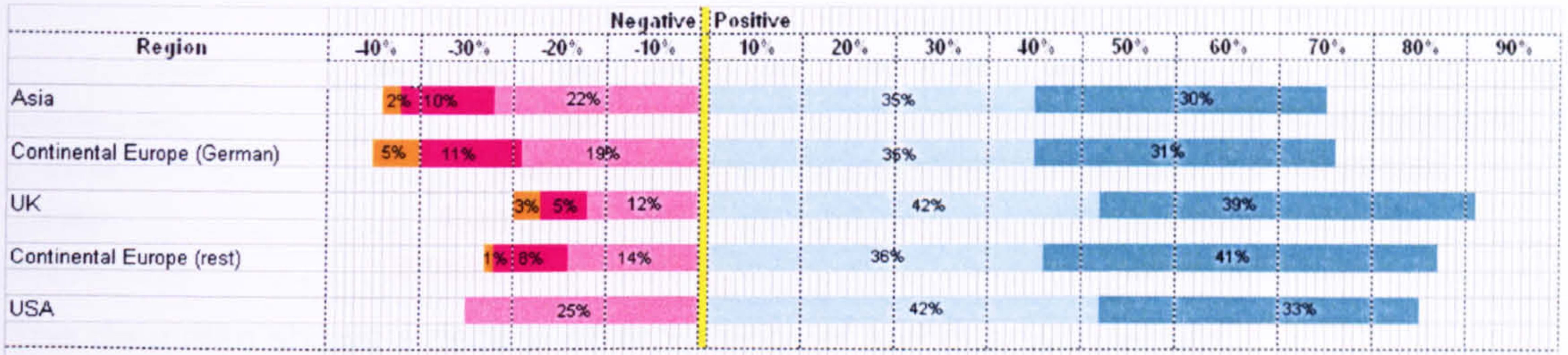
- Contribution considered during appraisal process (74%)
- Authority or direction from partners (73%)
- Provision of a charge code to record time (60%)
- Peer recognition and respect (59%)
- A one-time incentive or reward (43%)

These results are discussed in more detail on the following pages looking at differences by region, by tenure and by role (where appropriate).



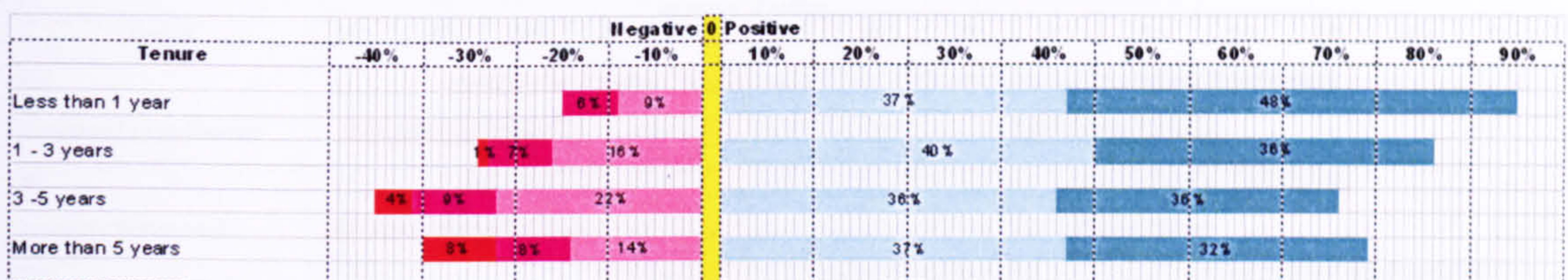
### 5.2.2.2 Knowledge contributions considered part of the annual appraisal process (Firm wide answer 74% positive).

Appraisals are crucial for climbing the career ladder and therefore are an important step towards partnership.



Looking at this question on a regional split shows that most emphasis on the appraisal is put in the UK (81%) and the least in Asia (65%) and Continental Europe (German) (67%).

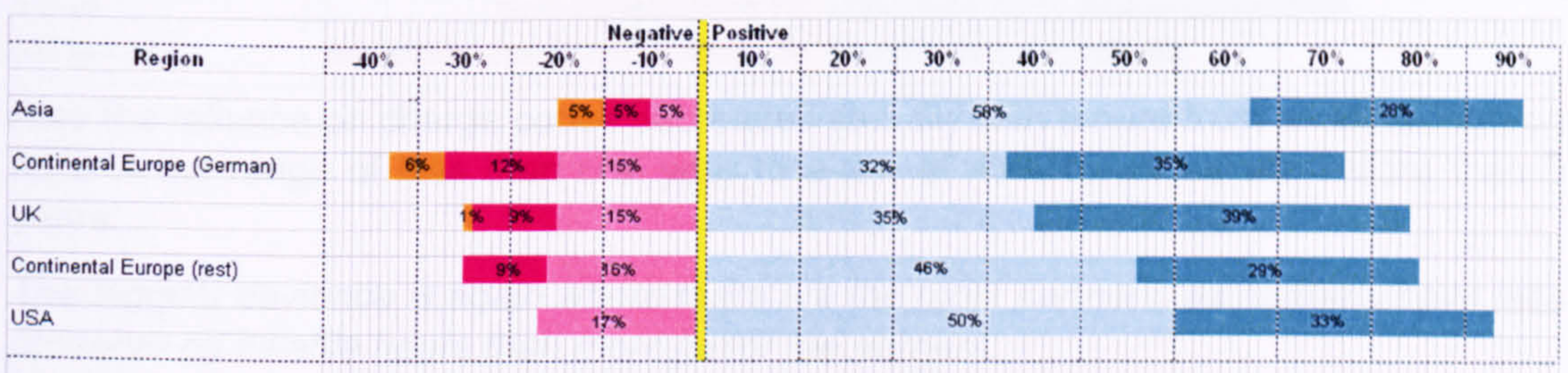
Several factors might explain the different emphasis by region. UK is certainly the largest and – in terms of HR practices – most organised environment, where higher emphasis is put on formal types of assessment such as the annual appraisal process.



However the importance of the appraisal process decreases with tenure, from 85% for those who have been with the organisation for less than a year to 76% for those in the 1-3 year range, 72% in the 3-5 year range and 69% of those who had been with the organisation for more than 5 years.

Fee earners might be more focused in their early years on the appraisal process and become less worried and more confident about it later on.

### 5.2.2.3 Authority or direction from partner/immediate supervisor to spend time on contributions (Firm wide answer 73% positive)

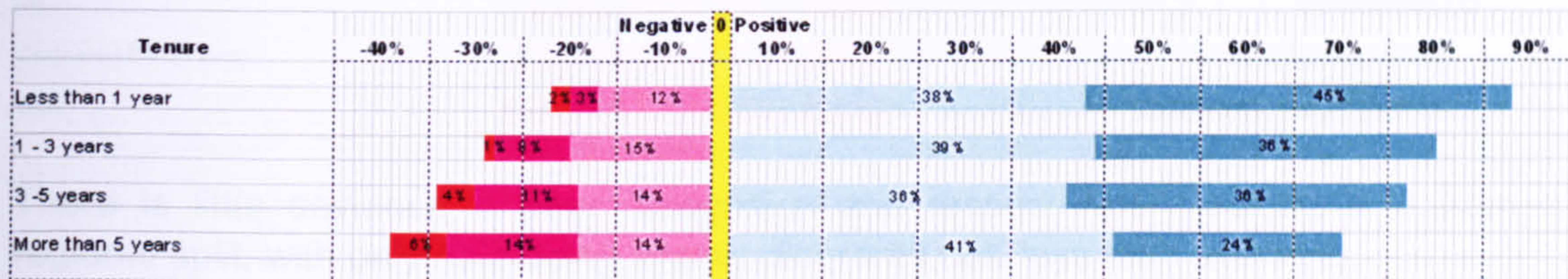


The regional split on this question reveals a big gap between the firm's cultures, with



Asia responding 86% positive, USA 83% and Continental Europe (German speaking & CEE) only 67%.

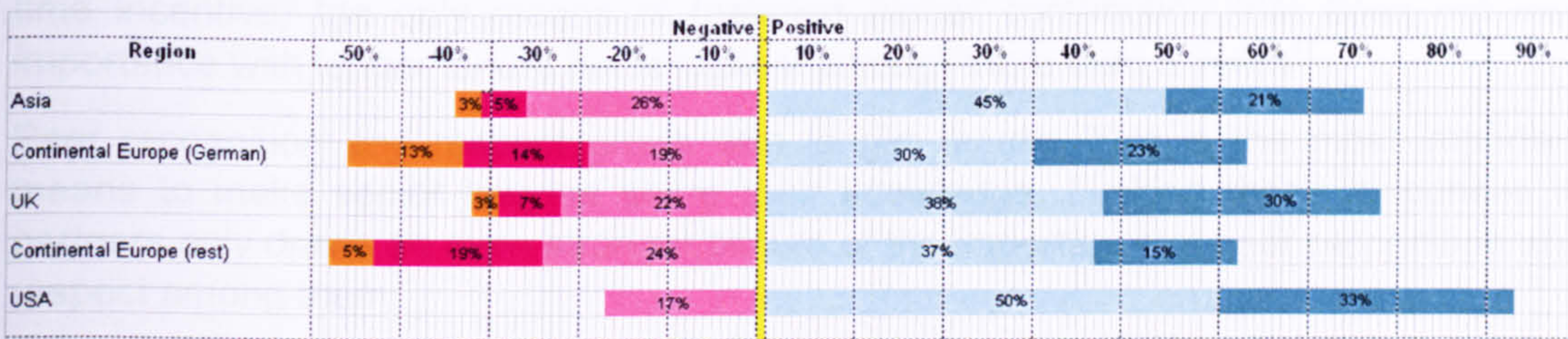
*This might be due to different work cultures in the respective regions but also simply because of the different meaning of authority.*



The data also shows a decline of importance of authority with tenure.

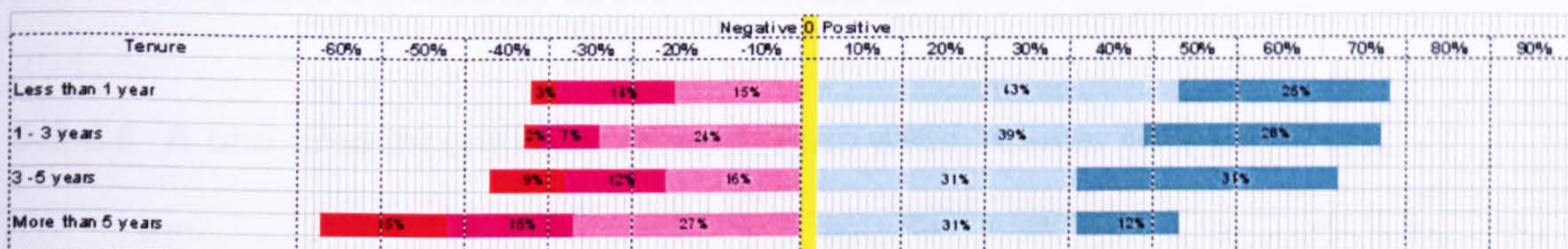
This is a natural decline as especially in the segment "More than 5 years" a lot of the respondents will be partners (79% of respondents in this segment are partners) but also because with longer tenure, fee earners become less prone to authority.

#### 5.2.2.4 Provision of a charge code to record the time used for KM (Firm wide answer 60% positive)



Charge codes enable the fee earners to justify the time they spend on KM, which is a strong incentive in the US (83%) but far less in Continental Europe (German speaking & CEE) (53%) or Continental Europe (rest) (52%).

*The USA has a strong billing culture where only tasks that can be billed are seen as important. Such a culture does not exist in continental Europe.*

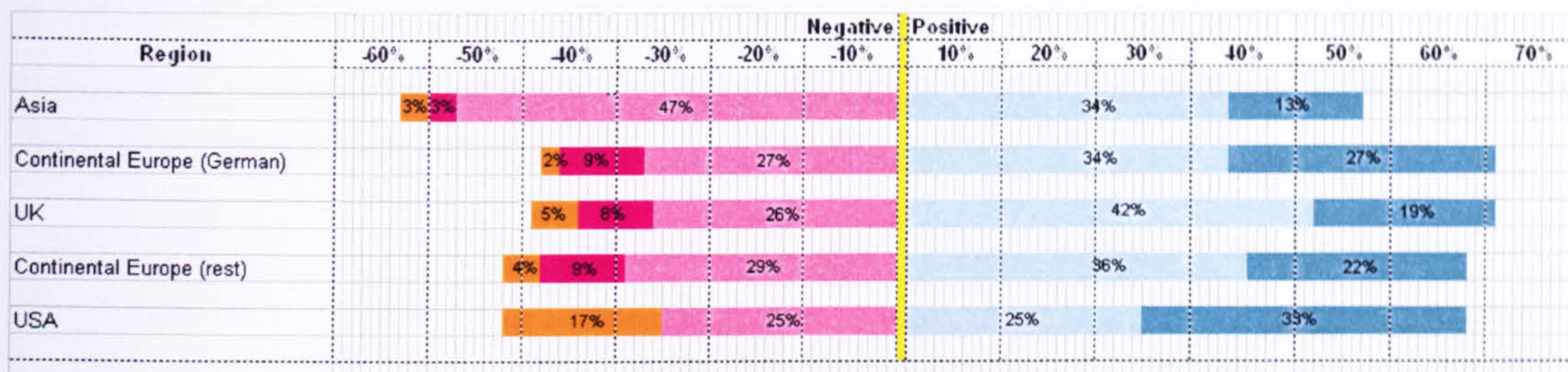


Also the reliance on charge codes decreases steadily with tenure from an initial high on 68% in the range of less than one year to a low of 43% for those with "More than 5 years".

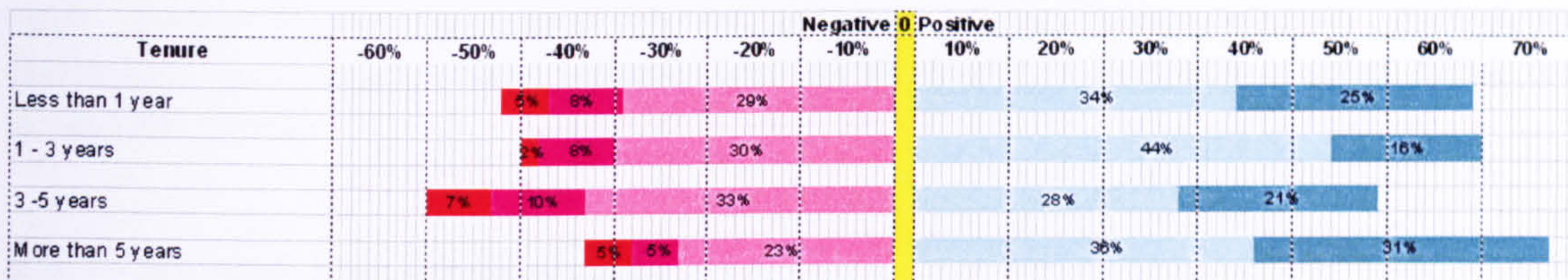
*The biggest deviance is again where there are the most partners, as partners have less pressure on billable hours than more junior fee earners.*



### 5.2.2.5 Peer recognition and respect (Firm wide answer 59% positive)

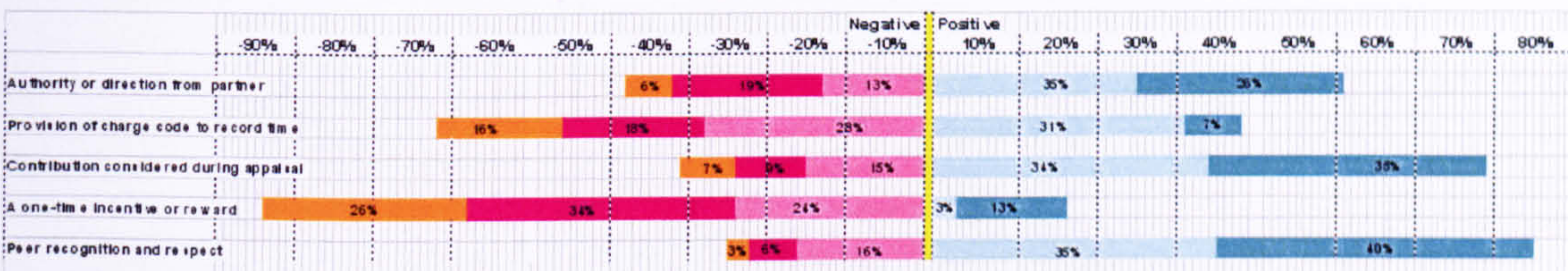


There is little deviance in peer recognition and respect when looking at it from a regional split, with only Asia being slightly different (12% less than average).



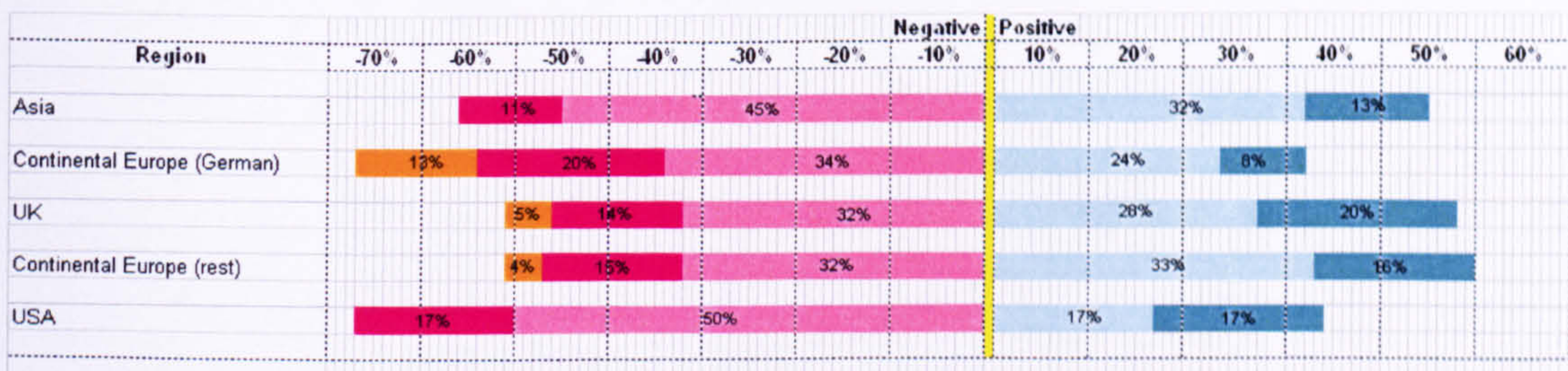
The tenure split proves to be more interesting as this is (besides the lowly rated one-time incentive) the only means of fostering higher contribution that does not lose importance with longer tenure but is highest among “More than 5 years”.

Peer recognition and respect grows with longer tenure. This is the most important means to make senior lawyers share their knowledge. Limiting these responses to partners only draws an even stronger picture of the importance of peer recognition and respect among them:



Among partners, 75% support the notion that peer recognition and respect are a good means to encourage contribution to the know-how system. This is 16% above the firm wide average and significantly above other means.

### 5.2.2.6 A one-time incentive or reward (Firm wide answer 43% positive)

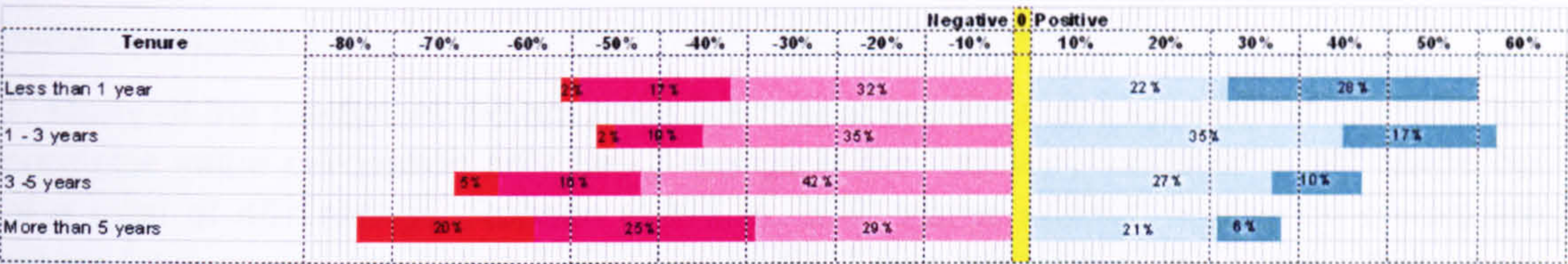


One-time incentives were rated the least important by the fee earners, but with high regional variance.



In Continental Europe (German speaking & CEE) it is the least important with 32% and in Continental Europe (rest) most important with 59%.

German and American cultures stand out the most with reluctance to accept one-time incentives as a means for increasing contributions to KM.



Also the reliance on one-time incentives decreases with longer tenure.

With longer tenure the possibility to achieve change with one-time incentives decreases, potentially either because of material wealth or because of more focus on long term effects.

5.2.3 The meaning of the results

In this descriptive analysis all of the predictors were found to be influenced to a varying extent by region and tenure. The next section is looking at which of these differences by region and tenure are statistically significant and which can be attributed to randomness of the data.



### 5.3 Statistical significance of the descriptive findings

A chi-square test can be used to “assess *the statistical significance of relationships*” (Robson, 1993, p. 334), meaning in the context of this research to provide evidence whether the descriptive findings, as presented in this chapter (section 5.2), are statistically significant and therefore meaningful.

Initial chi-square tests failed on many relationships for two reasons:

1. Many of the predictors did not have five responses in each segment, for example the predictor value perception only has 2 ratings in the “not very valuable at all” range out of a total of 467 ratings. Robson (1993, p. 334) warns against relying on chi-square where frequencies are below 5. For a potential future iteration of the survey, this would mean to have fewer categories in the first place.
2. As respondents were selected to be representative of their region and office, the US region was underrepresented in the survey respondents as it also only has a low share of total lawyers in the case study organisation. For a potential future iteration of the survey, this would mean to put an extra effort into getting sufficient participation from the US region.

Point 1 was addressed by merging the categories “neutral”, “not very valuable” and “not at all valuable” into the category “Neutral or negative”, while point 2 was addressed by taking the US region out of the analysis. Table 32 shows a statistically significant chi-square for 7 of the predictors by region and 43 of the predictors by tenure (statistically significant chi-square is a probability of 0,05 or less or highly statistically significant for 0,01 or less).

Predictor	Region	Tenure
Value of KM to fee earners	0,011*	0,279
Personal service from the KM team	0,002**	0,112
Internal systems	0,202	0,623
Quality of online systems	0,752	0,254
Standard forms	0,141	0,737
Contributions part of the appraisal process	0,018*	0,111
Authority or direction from a partner	0,001**	0,074
Provision of a charge code to record time	0,005**	0,009**
Peer recognition and respect	0,012*	0,009**
One-time incentive or reward	0,005**	0,001**

\* = statistically significant (p=<0,05)  
 \*\*= highly statistically significant (p=<0,01)

Table 32: Statistical relevance according to chi-square



The following relationships are being supported:

**Fee income predictors:**

Region with "Value of KM to fee earners"

Region with "Personal service from the KM team"

**Methods to foster knowledge sharing:**

Region with "Contributions part of the appraisal process"

Region with "Authority or direction from a partner"

Region and tenure with "Provision of a charge code to record time"

Region and tenure with "Peer recognition and respect"

Region and tenure with "One-time incentive or reward"

According to chi-square theory, this means that the descriptive comparisons in section 5.2 are statistically significant for these seven predictors. The variations by region and tenure for the other predictors can also be explained by random variation.

One more caveat needs to be mentioned: Hofstede (2003) as well as Trompenaars (2003) warn that wording is always an issue when using common language surveys (in this case English) across cultures as there are two possible catches; one being the understanding of the exact English meaning when translated into the mother tongue and the other one that the meaning itself might differ even when translated correctly as superlatives and comparisons might hold different values by nature.

### 5.3.1 The meaning of these results

Seven predictors have a significant relationship with either region or tenure or both of them. All of the predictors to foster knowledge sharing vary significantly by region and three of them also by tenure.

This means that we now know which method to apply in which region to foster knowledge sharing. This can be done by applying specific methods to specific regions and levels of seniority, as outlined in section 5.2.2. A practical application of this would be to e.g. in the UK focus more on the appraisal process as an enabler for knowledge sharing, while focussing on the application of authority in Asia.

Now that differences as well as common denominators have been explored, the next section of this chapter serves the purpose of putting this research in closer connection to the work of Hofstede (2003). It tests the applicability of Hofstede's cultural dimension model, namely the indices suggested finding out whether the national culture is reflected accordingly.



5.4 Applicability of cultural dimensions

What Hofstede (2003) basically suggests is that different cultures react in different ways to issues like power, individualism or similar (see 2.5.2.1 for details). If this is correct, then the author would expect these rankings to be in line with the results from the survey used in this research, i.e. that predictors that can be attributed to one of Hofstede’s dimensions would also vary in the way that Hofstede (2003) suggests they do.

For example if Hofstede’s Power Distance Index (PDI), which indicates how power influences behaviour of members of institutions and organisations within a country, is low for a country researched in this case study, the author would also expect this to be reflected in the variation of responses within the case study organisation. The same assumption is made for the other dimensions, the Individualism/Collectivism Index (IDV) that differentiates countries by the extent to which people value the group’s well-being more than individual desires or the Uncertainty Avoidance (UAI) which is the extent to which the members of a culture feel threatened by uncertain or unknown situations.

5.4.1 Layers of culture according to Hofstede

Before going into detail and comparing the results from the predictors with the dimension tables by Hofstede, one more perspective needs to be discussed: There are – as discussed earlier – several layer of culture that can be applied to researching cultural variations. Table 33 looks at these layers of culture in the context of this research and the availability of data:

Layer	Relevant to this research?
national level	Yes, relevant
regional and/or ethnic and/or religious and/or linguistic affiliation level	Yes, relevant. Regional data available.
gender level	Not considered - not available from the data
generation level	Yes, relevant
social class level	Not considered - not available from the data
organisational or corporate level	Yes, relevant

Table 33: Relevancy of Hofstede's layers of culture



5.4.2 Selected cases in relation to Hofstede’s cultural dimension model

The author has decided, for reasons outlined in the chapter “Research methodology” to focus on eight cases:

REGION	UK	Continental Europe I	Continental Europe II
Corporate	Case 1: London	Case 2: Frankfurt Case 3: Vienna	Case 4: Paris
Competition	Case 5: London	Case 6: Frankfurt Case 8: Vienna	Case 7: Paris

Table 34: Selected cases for Hofstede

Due to a lack of data due to insufficient responses to the survey, the author had to eliminate the Vienna cases from the analysis. Within the remaining six cases, the author initially looked at variations according to Hofstede’s dimension model. As there was no figure in Hofstede’s model for France on the Long Term orientation (KM as such is long term orientation and the whole survey was on KM) and nothing that could be related to the Masculinity/Femininity model the emphasis was put on the first three concepts on the dimension model; Power Distance Index (PDI), Individualism/Collectivism (ICI) and Uncertainty Avoidance Index (UAI). The figures used by Hofstede (2003) are:

Country		PDI	ICI	UAI
United Kingdom (UK)	Case 1	35 (lowest)	89 (highest)	35 (lowest)
	Case 5			
France (F)	Case 4	68 (highest)	71	86 (highest)
	Case 7			
Germany (D)	Case 2	35 (lowest)	67 (lowest)	65
	Case 6			

Table 35: Hofstede’s ranking for selected cases

As Hofstede (2003) claims that comparing subsidiaries shows national culture differences with unusual clarity, the author matched the relevant predictors with the score on the dimension model to determine whether the suggested ranking corresponds with the results from the predictors. Of course this method is not an exact reproduction of the IBM interviews by Hofstede but can still be expected to give an idea as to whether the national cultures are reflected by the local subsidiaries of the organisation. This was done by looking at Hofstede’s detailed descriptions of the model as well as attaining a good overview from supporting literature and descriptions and then matching the perspectives to relevant predictors from the existing data. The predictors identified were then assigned positive or negative value for each dimension and a value corresponding each of the three dimensions looked as resulted in a combined value to be compared with Hofstede’s assumed numbers.



5.4.3 Power Distance in the selected cases

Power Distance (PDI) is the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally. Cultures that are high in Power Distance are illustrated by decisions being made by superiors without consultation with subordinates (and subordinates preferring this practice), and employees being fearful of disagreeing with their superiors (Hofstede, 1980); whereas cultures that are low in Power Distance will have a more participative and egalitarian relationship between superiors and subordinates (Ford et al., 2003). Predictors that the author found matching to PDI of these indices are:

Predictors pointing towards high PDI:

- Authority from a partner is important to encourage people to share knowledge. In this context that power distance is high.

Predictors pointing towards low PDI:

- Sharing knowledge via a discussion forum is important (and so is more senior staff participating in this know-how exchange).
- Partners valuing KM in practice groups with high KM staffing (their subordinates) and consulting with them is a sign of a low PDI.

Case #	PDI Hofstede	Hofstede ranking	PDI predictors	By country	Country ranking
Case 1	35	1	1,61	1,73 (UK)	1
Case 5	35		1,84		
Case 2	35	2	2,04	2,10 (D)	2
Case 6	35		2,16		
Case 7	68	3	2,21	2,23 (F)	3
Case 4	68		2,25		

Table 36: PDI results

In this case, the predictors match the PDI suggested by Hofstede meaning that Power Distance can be applied and confirmed. Interestingly, in this context the working practices within the country differ so much that only merging the predictors of both cases researched within each country confirms the ranking.

This means that in countries with a high PDI, KM can be driven by authority more than in countries with a low PDI, where more informal methods such as discussion forums would be more appropriate.



5.4.4 Individualism/Collectivism in the selected cases

Individualism/Collectivism (IDV): An individualist culture is one in which the ties between individuals are loose, and they value personal time and personal accomplishments. On the other hand, a collectivist society finds people integrated into strong, cohesive groups, and values the group's well-being more than individual desires; the belief is that it is best for the individual if the group is cohesive (Hofstede, 1980; Ford et al., 2003).

Predictors pointing towards high individualism:

- Importance of peer recognition and respect as a reward for knowledge sharing are signs of high importance placed on individualism.
- A one time incentive or reward for knowledge sharing is a sign of an individualist culture.

Predictors pointing towards high collectivism:

- Talking informally to colleagues as a means of know-how exchange is a sign for a collectivist culture.
- Sharing knowledge via a discussion forum is a sign of a collectivist culture.
- The Willingness to participate in improving services provided for the general good of others in the organisation is a sign of a collectivist culture.

Case #	IDI Hofstede	Hofstede ranking	IDV predictors	By country	Country ranking
Case 2	67	1	1,93	2,03 (D)	1
Case 6	67		2,12		
Case 4	71	2	1,7	2,09 (F)	2
Case 7	71		2,47		
Case 5	89	3	2,06	2,12 (UK)	3
Case 1	89		2,18		

Table 37: IDV results

Again, as in the case of PDI, IDV rankings match those suggested by Hofstede, meaning the index is valid for this context.

For KM, this means that in highly individualist cultures personal gratification such as one time incentive will be more efficient than in cultures with high collectivist values.



5.4.5 Uncertainty avoidance in the selected cases

Uncertainty Avoidance (UAI) is the extent to which the members of a culture feel threatened by uncertain or unknown situations, and is the third dimension, measured from weak to strong.

Uncertainty Avoidance is “related to anxiety, the need for security, and dependence upon experts” (Hofstede, 1980, p 110). A culture that is high in Uncertainty Avoidance would exhibit a rule orientation, prefer employment stability, and exhibit stress as the members of the culture try to explain, mitigate, and minimise the uncertainty that is inherent to life (Hofstede, 1980) (Ford et al., 2003).

Predictors pointing towards high UAI:

- Knowledge sharing being part of the appraisal process is important is a sign of a culture that is rule oriented and therefore avoiding uncertainty
- Relying on standard forms is a way of avoiding uncertainty
- Relying on precedents is a way of avoiding uncertainty
- Using a charge code to share knowledge shows rule orientation, avoiding uncertainty.

Case #	UAI Hofstede	Hofstede ranking	UAI predictors	By country	Country ranking
Case 5	35	1	1,75	1,92 (UK)	1
Case 1	35		2,08		
Case 6	65	2	2,16	2,42 (D)	3
Case 2	65		2,67		
Case 4	86	3	2,29	2,29 (F)	2
Case 7	86		2,29		

Table 38: UAI results

This is the only index of the three the author looked at where Hofstede's ranking does not correspond with the results. However it should be noted that this is also due to case 2 differing significantly from case 6 in the same country.

For the application of KM this means that known uncertainty avoidance in certain cultures requires more formally structured KM work, e.g. by communicating more than in other cultures that KM can help in reducing risk.



#### 5.4.6 Discussion of Hofstede in relation to this research

Relating predictors from the survey to the values suggested by Hofstede provides evidence that supports Hofstede's cultural dimension model in so far as to what he predicted on a national/country level could be confirmed when looking at the offices in the corresponding countries and assigning predictors to them based on Hofstede's definitions. In terms of power distance (PDI) and individualism/collectivism (IDV) the results in this research correspond to the PDI and IDI suggested by Hofstede, where as the ranking differs slightly for uncertainty avoidance (UAI). Arguably, the link to predictors was established on the basis of wording in the cultural dimension descriptions by Hofstede and the predictors used by Hofstede are different to the predictors of this research. Nonetheless this research shows that the connection between the two is supported by this research and needs to be considered when measuring knowledge.

The importance of this exercise is that national culture can influence metrics and needs to be taken into account when comparing results from offices within the case study organisation that are placed within different countries.

This can be used when planning KM initiatives on a global scale or when looking at the results from a measuring exercise.

### 5.5 Learning from differences

In relation to research question 2 (*Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?*) this chapter has explored the existence of differences as well as patterns and has shown that there are cultural differences that need to be taken into account when managing knowledge.

For the key predictor driving fee income, the predictor value perception and in turn for the key predictor driving value perception, the predictor personal service significant differences across regions have been identified:

While value perception is generally on high level (85% positive), it is highest in the UK region and also high in the German speaking part of continental Europe, while all other regions are behind on this, the same is true for personal service.

There are also significant differences in incentivizing lawyers to share knowledge: Embedding knowledge sharing in career progression works best in the UK and the non-German speaking part of continental Europe. Authority is the best means to foster knowledge sharing in the US region and Asia. The provision of a charge code is the best means in the US region and generally among more junior fee earners. Peer recognition and respect are good enablers for knowledge sharing among more senior lawyers and especially among partners, while regionally this is least effective in Asia and on the same level of efficiency in all other regions. One time incentives, while generally the least effective method are most effective among junior lawyers and in the non-German speaking part of continental Europe and the UK.



## 5.6 Summary

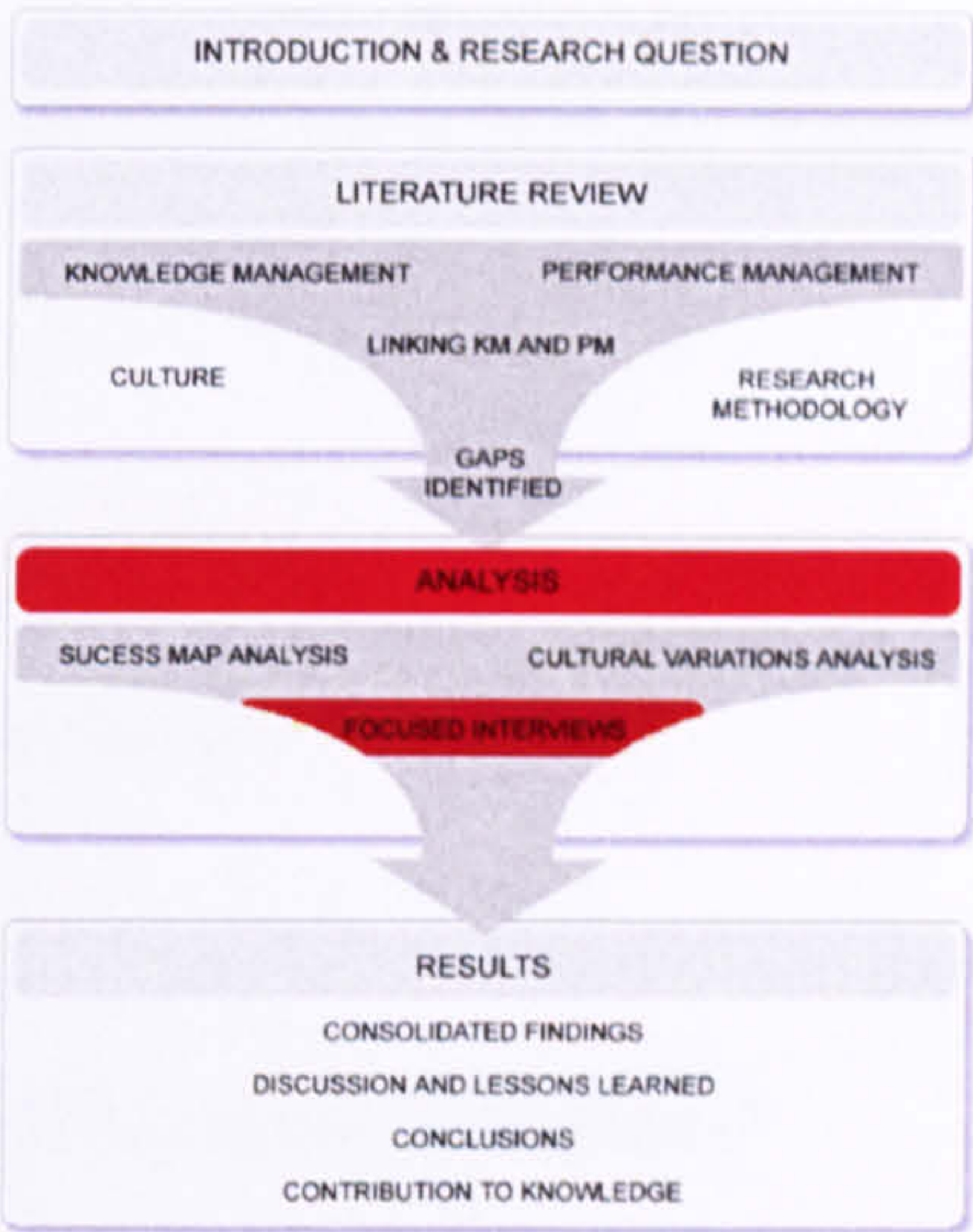
The questionnaire results were used to analyse the differences between responses across the population by region, length of tenure and to some extent – job role. Descriptive statistics supported by statistical significance testing (chi-square) provides evidence that fee income predictors as well as methods to foster knowledge sharing vary by region and tenure.

The key messages from this chapter are:

- Region and - to a smaller extent – tenure influence the key performance predictors and they vary naturally according to these layers of culture.
- This influences the results and therefore requires taking these variations into account when looking at measures
- Knowing about these differences can help in planning initiatives as these can then be tailored to fit in with different cultures and become more efficient by taking into account local specifics.



## 6 Analysis III: Focused Interviews



“It simply annoys me, not having access to the know-how and knowing it sits on a shelf next door, which is just as inaccessible for me as for any lawyer working for the competition. My next job interview will include a look at their know-how system. Here I was called a commie for talking about knowledge sharing.”  
*Interviewee L, fee earner, US law firm (UK)*

### 6.1 Introduction

This chapter focuses on the author’s use of interviews. Interview questions were derived from preliminary findings in chapters 4 and 5 with the purpose to provide richer and qualitative data to answer both research questions.

This chapter describes the interview sample, the background of each interviewee, the focus of the interview and gives an overview of the key points raised by each interviewee.

A key result of this chapter is an overview on what each interviewee considers to be the three or four most important contributions of KM to a law firm, thereby expanding on RQ1.

Another purpose of the interviews is to support the finding of insights for RQ2 and at the same time providing a broader picture of KM in professional service firms as seen in the research by Broady-Preston and Williams (2004).

Additional themes from the interviews are also discussed that were not present in the statistical analyses.



6.2 Interview sample

The interviews were conducted with the aim of gaining feedback on the research findings and added insight into the areas of value contribution of KM as well as cultural aspects of KM in the legal environment.

To ensure validity, external interviewees were selected from firms with the following characteristics:

- comparable<sup>3</sup> in size
- comparable<sup>4</sup> in revenue
- geographically dispersed offices
- history of mergers that created the current organisation
- comparable client target base
- good reputation
- well known professional service organisation publicly known KM efforts<sup>5</sup>

The author has interviewed five people within the case study organisation and seven people from other law firms or consultancies. The sample was chosen to represent both those who work in KM departments of law firms as well as fee earners, who are the “customers” of KM.

The interview partners were chosen from the personal network of the author within the case study organisation as well as outside of it. Table 39 shows the number of interviews by type, total time taken for the interviews and the number of pages that were transcribed.

Interview type	Number	Hours	Transcribed pages
Internal	5	8:42	54
External	7	9:26	48
TOTAL	12	18:08	102

Table 39: Interview information

Table 40 outlines the positions and background of the interviewees:

<sup>3</sup> Read: +/- 25% for size  
<sup>4</sup> Read: +/- 25% for revenue  
<sup>5</sup> All organisations mention their KM efforts on website or have staff publicly speaking on KM conferences



Position / Law firm / Country	Background
Fee earner, UK law firm, based in the UK	A is a fee earner who has worked in different offices and comes from another continent, thus bringing in an external perspective on European working practices and culture.
Fee earner, UK law firm, based in the UK	B is a fee earner in London, who has been with her current firm for the past 5 years and has qualified 2 years ago.
Knowledge management Lawyer, UK law firm, based in Germany	C is a former fee earner who became a KML in the very beginning of KM in his current firm and has published a book on KM in law firms and several articles on the subject.
Head of Knowledge management, UK law firm, based in Austria	D comes from a library background and was spear heading the implementation of KM in continental Europe within his current firm.
Knowledge management lawyer, UK law firm, based in Austria	E is the longest serving KML in continental Europe within his current firm. E played a crucial role in implementing KM and is the key contact for multiple practice areas.
Fee earner, UK law firm, based in the UK	F is 2 years qualified and recently moved from one major UK firm to another. She has previously worked in KM during her studies of law.
Head of knowledge management, US law firm, based in Germany	G is head of KM for continental Europe and has published on law as well on law firm KM over the past years.
Law firm consultant, self employed, based in the US	H has previously worked as a securities lawyer before moving to the business development side of law firms, and runs his own blog on law firm economics, Adam Smith, Esq.
Knowledge Manager legal department, US Consultancy, based in Germany	I is head of KM at the legal department of an American consultancy and has published a book on KM in law firms and several articles on law firm KM.
Head of knowledge management, US law firm, based in the UK	J is 5+ years qualified and moved from fee earning to co-leading KM three years ago.
Fee earner, UK law firm, based in the UK	K is 4 years qualified and used to be a tax lawyer before moving into lobbying six months ago.
Fee earner, US law firm, based in the UK	L is a US qualified lawyer who has moved from a firm based on lock-step to a revenue based compensation system

Table 40: Interviewees for focused study



### 6.2.1 Access and time

Access was less a problem, but time and place certainly was. Due to time and economic reasons the author was unable to get all interviewees into the same city at the same time and therefore decided to interview them one by one rather than following the initial plan to get them all together in a workshop for the added benefit of observing interactions and drawing conclusions from discussion. All people from inside the organisation of this case study were invited for the interview within a period of two weeks and all accepted but warned the author that it might take some time before the actual interview would take place. Interviews were conducted in English or German and recorded on tape.

External interview partners came from the author's personal network within the KM community and were all happy to meet at some stage, but again with the caveat of lack of time.

All interviews were conducted between June and August 2005.

### 6.2.2 Semi-structured interview

The content of the interview questionnaire (for full questionnaire see Appendix 1) was focused on two subject areas. The first was cause and effect and whether the findings presented in chapter 4 could be confirmed or disconfirmed. Explanations for the results were also explored. The other subject area focused on the cultural differences underlying the cause and effect chain as presented in chapter 5. In the first part of the interview, the questions were centred on discussion of the success map and questions on whether KM adds value to the business and if so, in what ways. Discussion was centred on statements derived from the data analysis presented in chapter 4. In the second part of the interview, focus was placed on motivations to share knowledge and how they differ by country in the perception of the interviewees.

## 6.3 Analysis of interviews

Each interview was recorded and fully transcribed. The transcripts were then coded and tabularised (Glaser and Strauss, 1967; Yin, 1994 and Miles and Huberman, 1994) by the themes that emerged from the analyses in Chapters 4 and 5. New themes also emerged from the analysis of the interview data.

This chapter will give a brief synopsis of each interview, highlighting what the interviewee considers to be the three or four main contributions of KM to law firm performance. Chapter 7 will present the data by theme, integrating it with findings from Chapters 4 and 5 and enfolding findings from the literature.

## 6.4 Overview of each interview

This section provides a summary of each interview – giving more detail about the Interviewee's background and highlighting what they see as the most important contributions of KM.



### 6.4.1 Interviewee A (Fee earner, UK law firm, based in the UK)

Interviewee A is a fee earner who has worked in different offices and comes from another continent, thus bringing in an external perspective on European working practices and culture. A has in the past worked a lot with German and Dutch lawyers in- and outside her current firm and was quite interested in discussing the preliminary results of this thesis on cultural variations analysis. Her first observation was that she questioned the rankings by Hofstede on culture. She felt that particularly in the US and UK, which are ranked low in terms of uncertainty avoidance have appeared to her in a different way: Rich in rules and bureaucracy compared to Germany and the Netherlands. A possible explanation she found apart from underlying national culture is also the longer experience with law firms as the development of large law firms is comparably new in continental Europe, where 10 years ago 10 lawyers represented a large law firm already, while in the US and the UK large law firms had already been established. Apart from questioning the rankings she was very interested in the results on how to foster knowledge sharing. Out of the options on how to motivate partners she was commenting on the "peer recognition and respect" option:

*"Of course this is the one and only way how to get to them, unless they are dependant on appraisals, but if things have come that far, that would be a very challenging position to be in for a partner anyways. I have seen in my department where partners started to share their knowledge according to the pecking order. No one really cared about sharing until the more senior partners started it. Once this was well-known and communicated, everyone else started doing it as well."*

The most important contributions she sees in KM are:

**Efficiency** when drafting large documents. *"I sometimes have to draw up the basic structure of a document between meetings or while travelling. I can almost always get what I need within the timeframe available for it."*

**Training** in terms of legal know-how. When A moved to Europe she realised that regardless of applicable law, things are being done in a different manner. She was able to adapt much quicker to what she refers to as "the house style", i.e. the style documents are written in this particular firm, by browsing the know-how database.

**Forward planning** is what A calls the opportunity to take the vast amounts of know-how into account when planning legal work:

*"When I plan my workload there are several issues to take into account, one of them is the major difference between knowing that whether there is high quality documents available or not. In my specialisation I have a good understanding of what is available and what not and by knowing that I usually know from the beginning of a matter how much work and adaptation will be needed for this client."*

A sees knowledge sharing as crucial for her job and emphasises that with every transaction she was involved in, KM had significantly added value.



### 6.4.2 Interviewee B (Fee earner, UK law firm, based in the UK)

Interviewee B is a fee earner in London, who has been with her current firm for the past 5 years and qualified 2 years ago. B's interview was rescheduled twice due to urgent client work, of which she said that it would have taken her much longer without the know-how resources available. B has been working at the firm since her first day of being a trainee and is now a senior associate practicing in Corporate. She considers KM an *"essential function in today's law firm environment"* and relies heavily upon KM: *"Particularly among more junior lawyers, we are heavily reliant on the firm's know-how and I know from comparison that it is invaluable how well it is organised."*

For her, the most important benefits are:

**More efficiency leading to higher billings** as KM enables B to bill more for less work, but at the same time bill less than before and provide higher quality work.

**Quality and efficiency of legal advice by KMLs** is also key to success in client work as she always knows there is someone to call for advice in areas she is not specialised in. And even if the KMLs do not provide the answers straight away, she is confident that KMLs will know where to find it.

**Newsletters (current awareness)** are the third valuable service she would not want to miss as she would not consider herself being able to find the time to keep track of all changes in law relevant to her practice.

B spoke at length about the implication of KM reducing fee income in one way, as it saves time that could otherwise be billed. However she explained to the author that this is not the appropriate way to look at it, as this theory omits three key points:

1. Work that was done in 10 hours five years ago, can now be done in three, but the quality is much higher and therefore also the billing rate is.
2. Clients appreciate the raised standard of quality and will therefore come back for more rather than try somewhere else.
3. Good know-how is efficient in bringing junior lawyers up to higher levels of ability much quicker and cheaper than sending them on courses or – worst case – letting them learn from mistakes in client work

*"When I draft contracts for the constantly changing needs of clients, I usually get three or four contracts out of the know-how system that provide useful suggestions for the drafting of at least some clauses. As I am often dealing with contracts concerning more than one jurisdiction it is very helpful being able to have a look at contracts drafted in different offices"*

Asked about the relationship between KM and higher fee income, B explained that anyone in her line without the ability to use the know-how efficiently would almost certainly not be able to bill a comparable percentage of the time spent working as those who know how to use it.



*"I consider it almost a separate skill set needed today for lawyers and that skill is knowing how to work with know-how. There are a lot of documents of different quality available on the system and one needs to be able to quickly assess which ones to use and how to use them. During a training session, a PSL spoke about pattern recognition, as in quickly assessing what solution fits which problem and that I believe is the key."*

#### 6.4.3 Interviewee C (KML, UK law firm, based in Germany)

Interviewee C is a former fee earner who became a KML in the very beginning of KM in his current firm and has published a book on KM in law firms and several articles on the subject. Interviewee C strongly agreed on KM influencing fee income and firm profitability for three reasons:

**KM improves client service** as the quality and speediness of client work can soar significantly

The second point is that it **saves time and cost** by allowing fee earners to reuse existing know how

KM improves the working conditions of fee earners and therefore **their job satisfaction** as they can get more done with less effort

On the point that KM is valued more by fee earners who bill more, C commented that

*"...of course this is perfectly reasonable, if KM is utilised more this will be reflected in billable hours produced by a fee earner and therefore, once on the bill will reflect in the value perception of a fee earner as he will get credit for it, either in recognition or when appraisal time comes."*

C emphasised that he believes in KM in law firms being dependant on locally placed KMLs who are fully integrated in terms of the work done locally as well as ideally sitting with the fee earners so they can respond efficiently to their needs and know what the fee earners are currently working on. Asked about culture or technology, C emphasised the importance of culture, without which technology would not be of much use. C also provided strong views on appraisals as a key motivational issue for enabling KM:

*"Appraisals need to have a strong impact on career development; they need to be deeply entwined as a key part of the career of every lawyer. This is just as important as management support, or to be precise, embedding appraisals that ask for contributions to knowledge is a strong way of showing management support for KM."*



#### 6.4.4 Interviewee D (Head of KM, UK law firm, based in Austria)

Interviewee D comes from a library background and was spear heading the implementation of KM in continental Europe within his current firm. He also held a management position in large KM community over a period of substantial growth of the community. Interviewee D has been at the forefront of KM development in continental Europe for a law firm following a major merger.

Asked whether KM directly influences the profitability of a law firm, D expanded on the issue of KM saving time, which is actually counter effective when lawyers bill by the hour. But as he acknowledges that this type of work with uncapped budgets and hourly rates is decreasing in favour of working on the concept of value billing with a capped budget he considers KM the single best way to make a law firm more money. He sees the contribution of KM to the business of a law firm in three key areas:

**Raised efficiency and speed** for the quicker and faster production of documents needed for client work.

The second point is **quality improvements** for single products, which ultimately lead to higher client satisfaction:

*"The quicker we solve complex issues and the higher the quality of these solutions is, the more likely it is for the client to return and bring more business to the firm. Clients are under immense pressure and this pressure is passed on to us. Without KM it would be difficult to deal with the demand for shorter response times and higher quality at the same time."*

KM is an enabler for higher **job satisfaction** as people can build on existing know-how from the work of others. D sees a general tendency in the professional service world to build on existing know-how rather than to constantly reinvent the wheel and notes that there is no kind of R&D in terms of legal know-how in most law firms as it is too hard to build complex documents from scratch.

Asked about the prevailing discussion of whether culture or technology is more important, D stated that culture, when defined properly is certainly more important. As for his definition, culture consists of the working style of people, the way they talk to each other, and ultimately in his context how they share knowledge, while technology comes in second in terms of its importance:

*"The question must always be what KM can do for the fee earner, what personal success it can bring the person. You can have a pretty badly designed system, as long as it gets the user something he wouldn't have otherwise or save him time or reduce his workload or hours, they will always go for it"*



#### 6.4.5 Interviewee E (KML, UK law firm, based in Austria)

Interviewee E is the longest serving KML in continental Europe within his current firm. E played a crucial role in implementing KM and is the key contact for multiple practice areas.

*"The human component of KM is very important, most KMLs spend several hours a day answering queries, also the type of queries you can't really capture or look up in a know-how database. KMLs are a central function for know-how exchange."*

E ranks the contribution of KM to the business of a law firm in four key areas:

**Efficiency** is what E calls an evident point as *"when I started here it took me five times the hours to set up a company compared to what it takes me today"*. KM can also be very helpful in matters where a fixed sum is billed to the client or a cap is set on the maximum fees to remain within these limits.

**Responsiveness** is an aspect of efficiency and is what E defines as the ability to respond to clients quickly, which would not be feasible without standard forms in the timeframe and the quality required by the client. Without knowledge management a firm of a certain size would not be able to remain competitive.

*"It became very important over the last years to be able to produce large quantities of high quality documents in very little time. A loan agreement in London has at least 100 pages. End of the line. No 100 pages, no loan agreement. You can't draft that over night but you will need to present it to the client in the morning anyways."*

**Quality** is another benefit of KM. Even without the cycle of collection, usage, feedback and added experiences, collecting documents and making them available among the lawyers improves the quality of the work done.

*"If you look at four different contracts on a similar transaction, you are highly likely to find things in there that you either hadn't thought of yourself or you find them drafted in a better manner than your own."*

**Risk management** as the more time invested in working on documented know-how, the lower the chance for possible mistakes due to reuse.

E also stressed the role of KM in developing the skills of junior fee earners as *"with junior associates KM can make the difference between billable and non-billable hours. If an associate spends ten hours drafting a document from scratch or if he spends ten hours learning from existing know-how and using it to its full extent, thereby creating a great new document himself, the latter will more likely stand a chance of being work that can actually be billed to a client"*.



E provided additional insight in the following areas:

- Applicability of KM across practices

E had comments about the applicability of certain KM approaches across practice groups as he acknowledges that in some practices taking the approach of using documented know how is more useful (such as e.g. in large transactions) compared to practices where advice is highly individual, such as in intellectual property law, where the focus is more on current awareness updates on changing laws and case law.

- The technology vs. culture discussion

Technology and culture are not substitutable and successful KM cannot reach its full potential without both.

*"We have achieved a lot without the right culture, I sometimes feel like a private investigator when I am hunting for know-how. But in the long term you need culture as well as technology. I spoke to a colleague who is doing KM someplace else in Vienna and they use Excel lists in KM to list various standard forms. You can have the best standard forms and it won't help you if you can't access them properly"*

- Billable hours

E sees the negative potential of KM actually lowering fee income as in when partner has great know-how available and can therefore do a job much quicker. The main question he sees arising for the future is whether having the right know-how in itself actually justifies billing for it.

#### 6.4.6 Interviewee F (Fee earner, UK law firm, based in the UK)

Interviewee F is 2 years qualified and recently moved firm from one major UK firm to another. She has previously worked in KM during her studies of law.

F herself has a deeper insight into KM not only from a user perspective but also from a KM provider perspective. During her law school studies, which were supported by a UK law firm, she worked as a summer intern in KM before starting her trainee contract and then became an associate with another large law firm in the UK upon finishing her training contract. F sees the billing culture as a crucial element of making KM successful as billing targets are in her opinion a huge barrier against knowledge sharing:

*"Success of KM depends a lot on the billing culture of a firm. Here we don't have billing targets, therefore I can call everyone and ask them for help and they will help and won't have to bill that time to my client. I know of other firms where every six minutes of advice from an expert are billed on to the matter you are asking about and this of course documents on the bill that you didn't actually have what was needed at the time of doing it. Where I am now, I can call up anyone, and they will give me advice. Of*



*course, a culture like this encourages people to share and encourages trust among colleagues."*

The main contribution to the business of law firms are according to F in the following three points:

**Efficiency**, in terms of not reinventing the wheel is without doubt the main point that has helped her in the past

The second main point that has helped her a lot during her training is consistency, meaning the provision of a "house-view" on things. It helped finding out what the **firm view** was on topics in tricky areas of law, where there are several interpretations and she found it particularly useful to be able to go to the know-how system and find that house view.

*"When you are new to a firm there is a lot you can learn by just browsing through know-how. I learned a lot this way."*

The third point is **short and long term profits**, which can be approached in two ways, either by marking the fees up and billing what used to be billed for more time or when the firms realise that it actually builds reputation by the quality of advice provided.

The cultural benefits of KM, which she sees in her daily work are a very different way of working compared to US law firms she knows:

*"From my perspective, KM brings the advantage of fostering a friendly, collaborative culture because if you contribute, people are bound to come to you and ask you questions, nevertheless US firms hardly have strong KM but they have higher profits."*

#### 6.4.7 Interviewee G (Head of KM, US law firm, based in Germany)

Interviewee G is head of KM for continental Europe and has published on law as well on law firm KM over the past years. G has built KM from scratch in the continental European offices for his current firm. Interviewee G's interview had to be rescheduled several times due to his generally very busy diary. G had moved in 2002 from a more junior KM position in a firm based on the lockstep compensation model to an American law firm in Germany where he was tasked with building KM from the start. The point he emphasised during the interview was that this was a very different environment to the one he had known; Previously he had worked in a large KM function of an early adopter and leader in KM and now he works in a firm with a revenue based compensation model and a culture very different from the one he was used to. Nevertheless he is now looking back at three very successful years in terms of building



KM. Very recently his remit has expanded to also include library and information services.

*"Investment in Knowledge Management certainly influences a firms fee income and profitability, however I see this relationship to be an indirect one and not by what I see as the usual robbery by billing 10 hours for a document that used to take 10 hours the first time and now takes 30 minutes to adapt, but by reducing the work load and freeing up time for higher value work or generating new business."*

G sees the main value contribution by KM investment in three topics:

**Quality**, meaning that KM fosters higher quality through quality assurance, as KMLs can work on standard forms or any other know-how documents without the pressure for billable hours. By updating existing documents they can create higher quality documents than those coming out directly from client work.

**Efficiency**, KM staff serve the fee earners before, while and after they work with the clients, preparing know-how and ideally thereby creating a constant feedback loop, permanently improving documents where possible.

This thereby improves **culture** in terms of collaboration

G also spoke about an article (Willamowski, 2005) he recently published in a legal business magazine in Germany where he argued that KM is not realising the benefits it could realise if applied to its full extent and in the right way. The deficits he encountered are that law firms – being conservative by nature – use KM to hinder innovation more than to foster it by *"making sure the way things are done today will continue to be the way things are done in the future"*. He went on to argue KM being *"a rather conservative way of avoiding risk rather than letting something new and creative come up."*

Another remarkable distinction the author found with interviewee G is the high interest in new concepts in academia, and the readiness to learn from and experiment with these. No other interviewee spoke this much about issues that would seem far fetched for many KM managers in law firms, such as chaos theory or insights gained from innovation theory. For interviewee G, research plays a big role in his considerations and activities and the preoccupation with them has helped him a lot in the implementation process and operational aspects of KM.

#### 6.4.8 Interviewee H (Law firm consultant, self employed, based in the US)

Interviewee H has previously worked as a securities lawyer before moving on the business development side of law firms, and runs his own blog on law firm economics, Adam Smith, Esq.

H sees the goal of KM not in curating and preserving "knowledge" for its own sake, but to get talented professionals communicating, collaborating, and working together seamlessly, sharing objectives and having available the toolkit needed to get there.



*"But if the actual, functioning network diverges from the formal hierarchy, well intentioned efforts to get people to collaborate better along the lines of the hierarchy will fall on deaf ears. For example, if a senior associate has a reputation for knowing more than anyone else in the office about drafting acquisition agreements, it's far more likely that other associates will go to him or her for assistance than that they'll go to the partner they're actually working with on an acquisition."*

The main contribution of KM to firm profitability H sees is:

KM can provide a credible and ownable **distinction** for a firm vis-à-vis its **competition** if it is thus enabled by KM to provide more rapid, thorough, and focused responses to client issues.

From the angle of **professional development**, one of the biggest drags on firm profitability is having to write off or discount associates' billable hours when the client perceives (often rightly) that little value was provided. To the extent associates can be brought up to speed more quickly through "continuous learning" made possible by KM--the realization rate on their billable hours will increase, which provides a direct bottom-line gain for the firm (i.e., overhead/expenses increase zero, revenue increases > 0).

If a firm is able to do "**value billing**" rather than hourly, a robust KM platform can help make creation of deal documents, etc., extremely efficient and productive, yielding **very high margins**.

H's view is that the chief obstacle to effective KM in a law firm is culture, not technology. He sees technology as necessary, readily available, but not remotely sufficient, tool; if the firm's culture is not collaborative, collegial, and "sharing" by nature, pursuing KM will be an exercise in frustration.

*"You asked, provocatively, whether I subscribed to the "Kingsley Martin"<sup>6</sup> model of KM, which I'll caricature as "search takes care of everything," or conversely the UK/-practice support lawyer model, which can roughly be reduced to, "human experts take care of everything." My answer was neither, or more precisely, some of both. Much of what I want to discuss here will flesh out that answer."*

A major difference H sees between the UK and the US is that he considers it improbable for financial and cultural reasons that the UK custom of having practice support lawyers/professional support lawyers/knowledge management lawyers on the payroll will be adopted in the US, but he believes that it is unavoidable to require some intelligent human supervision and intervention over the development and classification of model documents. This is what H considers a huge barrier, asking why any rational

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<sup>6</sup> Kingsley Martin, US law firm consultant, see [http://practice.findlaw.com/archives/feature\\_0403.html](http://practice.findlaw.com/archives/feature_0403.html) for his view on KM in law firms.



lawyer would spend as much as five minutes tagging or classifying a document they've created, which, by hypothesis, they are thoroughly familiar with, in order to feed it into a common repository where it will produce no added value for them?

*"I believe a powerful and effective KM system needs "Google on steroids" as well as a taxonomy, classification, and/or tagging system of source material that is created and maintained by your professionals as a fortuitous by-product of their ordinary information processing tasks."*

#### 6.4.9 Interviewee I (KML, Consultancy, based in Germany)

Interviewee I is head of KM at the legal department of an international consulting firm's legal arm and has published a book on KM in law firms and several articles on law firm KM. Interviewee I was well informed about KM at other law firms and started the conversation with a long chat about developments at the firm and the desire to close some gaps on his information status. He had left his previous firm in 2002 to build KM from scratch within the legal department of an American consultancy in Germany. The biggest difference he encountered was in terms of culture, which with his current employer was much more ready than with his previous one:

*"In this case, culture was ready before technology was, lawyers here felt they wanted to do KM, needed to do KM, all they needed was someone to take care of it. So I was hired from another firm that had a good reputation in this area and was known for having practiced KM for a long time and I was tasked to take care of building up KM here."*

Previously he had had less positive experiences with German lawyers (he himself is a German qualified lawyer):

*"I feel it is more difficult to get Germans to share because all the way through their education they are being told that being a lawyer is being a free man, a lonesome rider, the administrator of justice<sup>7</sup>"*

The value contribution of KM comes, according to I, out of these main topics:

**KM simplifies the drafting process on a procedural layer.**

**Therefore more fees can be billed with less work**

<sup>7</sup> Administrator of justice = *Organ der Rechtspflege*. This is the first paragraph in the law regulating lawyers in Germany: § 1 Bundesrechtsanwaltsordnung (BRAO): *Der Rechtsanwalt ist ein unabhängiges Organ der Rechtspflege* (The lawyer is an independent body of the administration of justice). Please note that the author feels the translation does not entirely reflect the full meaning of the nuances in the word.



Beyond the first two points, **efficiency** in general can be improved by applying KM

I sees KM as one way of increasing efficiency just like other means such as business development or similar, and stated that *"any type of professional support for lawyers that allows them to focus on their core business generally creates improved productivity."* When asked how he measures productivity in his role, the main issue was usage numbers: *"Indicators for productivity in my case are usage numbers. Of course I could also use "Time saved" because of work done quicker due to KM. Usage numbers are a useful thing, when I arrived here, I knew the culture was right when I had usage numbers from the beginning that took us two years to reach in my old organisation. But no, we do not have any qualitative numbers at all. "*

Like interviewee G, interviewee I "learned" knowledge management at the case study organisation and has in the meantime moved on to another organisation, where as mentioned above the culture was right, but the investment significantly below his old organisation:

*"It is great to have local staff in every office, but that is a question of money and the attitude here is different, the question is no more "how much does the world cost" but a much tighter regime in terms of spending. We have more than 10 offices in my area of responsibility with somewhere between 5 and 30 lawyers. Local staff is simply not justifiable in this context and not necessary either. This is of course also influenced by how the retrieval is organised and I have organised it in ways that don't need local interaction, people can always call me if they can't get what they need and I am there for them, no matter what end of the country they are sitting in."*

#### 6.4.10 Interviewee J (Head of KM, US law firm, based in the UK)

Interviewee J is 5+ years qualified and has moved from fee earning to co-leading KM three years ago. Interviewee J was very open and critical about KM at his firm.

*"I know quite a few people from your firm - both within KM and the partnership - and from what I hear my estimate is that my firm is probably 3 years behind technology wise and about a century and a half in terms of culture with the main cultural difference being the lock step system"*

J sees the main value contribution by KM investment in three topics:

**Quality improvements** through more consistent advice on basic issues where standard forms exist and are being used throughout the organisation. A major setback though is that due to knowledge being hoarded rather than flowing freely more complex standard forms beyond what he calls the *"100 most common procedures of the law we*



*practice*” are not available to lawyers in his organisation because they are usually saved in the document management system with access only for the partner. The know-how originates from and the associates working directly for him.

**Collaboration** is increasing between partners who see potential advantages by exchanging knowledge within the firm but this happens on a very personal basis still and internal research into collaboration by looking at usage numbers and conducting surveys suggests that no more than 30% of partners regularly use know how produced outside their local office.

This ultimately can lead to **cultural shifts** where know-how beyond one office is being used and cooperation is improved within the firm by avoiding that two partners are pitching for the same client.

*“It is still common in large parts of the organisation that people have lowered their fee projections to clients in pitches only to find out later that they were actually bidding against someone sitting basically next door. Of course the one who wins won’t get to use the know-how held by the one who lost. We tried to put a stop to this by centralising pitches but failed in achieving our goal and I just had a partner calling me last week to demand his know-how to be withdrawn from the know-system because he lost against another partner from the same office. Of course we had to comply and lost something we had considered very valuable.”*

The hardest thing J found when starting KM at his firm was that most people did not know what to expect:

*“We have two types of lawyers, one type goes into a business, solves problems, and gets out having done good legal work. The second type, bringing in just the same amount of fees or probably even more are what I consider to be therapists. They develop relationships with the clients that are more like those of business consultants and therapists for CEOs who want to have top lawyers around for board meetings and playing golf. Of course the latter does not need KM to the same extent the problem solvers do and do not wish to pay for it. They need great tailors and subscriptions to lifestyle magazines. But they form a surprisingly big part of the organisation”*

#### 6.4.11 Interviewee K (Fee earner, UK law firm, based in the UK)

Interviewee K is 4 years qualified and used to be a tax lawyer before moving into lobbying six months ago. K has had little contact recently with KM as she has changed her focus of work to an area of law that is rather new at her firm, which she finds rather difficult and is having a negative impact on her performance.

*“It is the old saying, you never know what you have until it is gone. I used to draw a lot of my work from our know-how database, which was kind of difficult to use but still time*



*efficient compared to redrafting entire contracts. When I started my new role, I realised there was nothing much available KM wise and I had a horrible first six months building myself a basic portfolio of standard forms for reuse”.*

For her the main benefits of KM are:

**Current awareness**, as in newsletters and legal briefs. Tax law (*her prior focus of legal works*) changes very often and she sees the benefit in a simple calculation: if there is 40 lawyers working in tax law, it would probably take each a few hours a week to keep themselves updated therefore losing out on valuable billing time. One dedicated KM lawyer can do this on behalf of the entire group and save others a lot of time and effort.

*“It is simply not feasible to maintain by yourself the level of expertise needed to do this job and rightly expected by the clients. These changes in law of course also need to be reflected in the standard forms and someone very knowledgeable needs to work on that. We used to have a PSL who was PSL just because he couldn’t keep up with the stress of fee earning and who was not very bright. This didn’t work, the last PSL we had in Tax before I left was one of our best lawyers taking a year to build up our know-how. Of f course withdrawing one of the best client lawyers from fee earning also sent out a message to the group. Things had greatly improved since then.”*

Capturing state of the art legal work and having the means to disseminate it among junior fee earners is another big opportunity KM shapes. When K was new in the tax department, browsing existing know-how was a major means of her training. In her opinion this not only saves time but also ensures documents are up to market practice.

The third main point she made was the **fostering a culture of collaboration** among fee earners as in her opinion knowledge exchange always fosters social exchange. A very recent change in her firm was the step away from only including documents close to perfection towards allowing fee earners to submit their own drafts, even if they are work in progress.

*“I have submitted a not entirely ready clause for discussion and I received not only suggestions for improvement, but also positive feedback for the basic work I had done and that others could reuse. It helps me getting recognition of my knowledge in the field and furthers my career. ”*

Her new practice group has very recently been assigned a PSL which has changed a lot for her as she can now focus on client work:

*“There is no such as thing as the one standard form for advising clients on tax law as it is highly personalised advice. But at least there were certain frameworks, regularly*



*updated to a high standard, that I knew where to find. Now my group has been provided a PSL and certainly this work is even more tailored advice than tax law, but there is a lot of opportunity, as this practice area grows, to benefit from that. "*

#### **6.4.12 Interviewee L (Fee earner, US law firm, based in the UK)**

L is a US qualified lawyer and had considerable difficulties after moving from a firm based on the lock-step system to a US law firm where compensation is based on business generated. Even for associates, he says, the flexible remuneration is showing impact on the way colleagues are interacting:

*"I asked a more senior associate who sits on the same floor but works for a different partner for advice in securities law as this is not my speciality. We had met before on social occasions and got on very well but when I needed his advice, I had to book time via his secretary and provide a matter number upfront. We ended up talking and he billed 186 minutes on my matter for the time it took him to read through my work and discuss it with me. I had to justify this to the partner I work for and I shall certainly not do this again."*

When asked about contribution of KM, L came up with the following points:

Library staff doing **high quality legal research** for him is what he values most, as this is a very efficient and professional service and he therefore won't need to be concerned with the quality of the information he works with and depends on. He appreciates this work being taken off him and carried out by professionals who need a fraction of the time it would take him.

**Practice specific newsletters**, purchased externally through library staff are another very helpful feature. Again, this is about saving time for him and his colleagues. He quite likes the subscription options he has and feels sufficiently informed about any relevant legal developments.

**Risk management** is what L calls "the bottom line of KM" as it promotes good precedents and by constant review and feedback minimises the risk of low quality documents being reused.

*"Of course, I would rather be able to drill down further and more efficient, e.g. by searching for specific documents such as who gave what opinion on a truncation or which jurisdictions were involved, but there are two things missing here: one is commitment and the other is technology."*

L misses his old firm where much more know-how was available in electronic formats and it was easier to speak to the lawyers involved in earlier transactions. His plan is to



move on to a lockstep based firm within the next 2 – 3 years and more specifically one that is known for having good KM systems:

*“It simply annoys me, not having access to the know-how I need while knowing it sits on a shelf next door, which is just as inaccessible for me as for any lawyer from working for the competition. I was naïve and one thing I know for sure is that my next job interview will include a look at their know-how system. Here I was called a communist by a partner I was talking to about knowledge sharing.”*

Discussing the five different methods to foster knowledge sharing, L identified only the charge code as a possible means in his current firm.



6.5 Topics emerging: Key KM drivers for organisational performance

Table 41 lists the key benefits mentioned by each interviewee:

	A	B	C	D	E	F	G	H	I	J	K	L
Efficiency	X	X	X	X	X	X	X		X			
Quality		X		X	X		X			X		X
Risk management/Differentiation					X			X		X		X
Long term benefits						X		X	X			
Culture							X			X	X	
Current Awareness		X									X	X
Training	X					X		X				
Job satisfaction			X	X								
Simplified procedures									X			
Forward planning	X											
Client service			X									

Table 41: Benefits of KM by interviewee

Other findings from the interviews were very diverse views on fee income. Even though there is the argument that as KM saves time and time is money billed, KM would actually reduce fee income, no one supported that notion and a variety of explanations as to why KM actually contributes to surging fee income and profitability were given:

- Reusing know-how raises the quality level of client work.
- Current awareness by dedicated KM staff saves the fee earners time and effort to keep up with developments themselves.
- Higher quality know-how makes it easier for junior fee earners to learn and develop their skills.
- Collaboration between fee earners leads to increased productivity.
- Feedback loops between KM and the business constantly improve quality of know-how documents.
- Honed know-how documents ensure consistency of advice given to clients and at the same time enable junior fee earners to gain deeper understanding on what the firm's approach to a certain topic is.

In comparing responses from within the case study organisation with external responses no strong differences could be identified. In terms of scope of the interviews the approach chosen was to include sufficient fee earners (customer of KM) as the lack



of fee earners was identified as key weakness in the Disterer (2005) study on KM in law firms. Out of the 12 interviewees,

- 5 were fee earners,
- 4 were Knowledge Management Lawyers (2 of them KMLs with a management function),
- 2 were in a director role with and
- 1 a law firm consultant.

The data presented and the quotes chosen were selected for the purpose of adding insight into the realities of KM at large law firms and to improve general understanding of the topic. Quotes of similar content and repetitive anecdotal evidence were left out of the analysis. Revisiting the transcripts also showed that while a semi-structured interview framework has its benefits, the conversations also went off topic quite often. The key message to take away from this chapter is that lawyers as well as KM experts found a large variety of business benefits in KM and agreed on many subjects.

### 6.5.1 Efficiency (58%)

Even though efficiency was the top value driver mentioned by the interviewees, it is important to look at the different meanings that the word has to different people:

- One understanding is the view towards availability of know-how, as it is very helpful to know that documented knowledge is available when needed.
- The efficiency of well trained KMLs is another point emerging from the interviews, just as
- Efficiency gains that are understood as simply making the task easier while incurring less cost

A key requirement for increasing efficiency was identified by interviewee E as the constant feedback loop from users of know-how to those maintaining it.

### 6.5.2 Quality (50%)

Interviewees agreed on quality as being one of the central issues in need of measurement with two focus areas: Measures for the know-how system and for KM staffing. Three more measures suggested were as relevant:

- Time needed for drafting standard documents (this can be measured via the time capturing systems usually in place for billing purposes)
- Average age of documents in the know-how system
- Fee earner participation in the review process



50% of the interviewees argued that in terms of know-how systems, usage by itself is a valid measure of quality as systems not holding relevant know-how would most likely not be used, which the author considers true, but not sufficient as a quality measure.

33% of interviewees also suggested that experience in the client business, (before moving into full time KM work) is a quality measure for Knowledge Management Lawyers, which the author considers relevant as it certainly fosters understanding of client work among fee earners. Interviewees also suggested legal experience of researchers (library staff) as a key attribute that should be measured. The success map was generally well perceived and thoroughly discussed. The discussion focused mainly on the topics of quality, standardisation, the impact of usage and the possible indicators behind it. Culture and fee income were discussed already before going through the success map and were therefore usually not covered anymore in discussions.

### **6.5.3 Risk management (33%)**

Well maintained know-how that is constantly kept updated and refined can significantly lower the risk of providing bad advice. The more time and thinking is invested in know-how, the less the potential for error will become. KM by concept is a method to reduce risk, as creating documents from scratch would always carry more potential for error than reuse of honed know-how.

The same assumption is made by interviewees for increased collaboration, as collaboration means more brains working on the same task and an increased coverage of combined expertise.

### **6.5.4 Long term benefits (33%)**

Two kinds of long term benefits were identified by the interviewees, one as a differentiator from the competition, and the other the long term influence on productivity. Efficient KM can become a "credible and ownable distinction" (Interviewee H) for a firm to stand above the competition for recruitment as well as daily operations.

London (2005) quotes a partner at a major law firm giving additional long term reasons for KM; client demands (more prospective clients are demanding law firm KM descriptions), recruitment (law school recruits are asking firms about KM systems), low retention rates among lawyers (as lateral hires increase, the brain drain can be enormous) and insurance (liability insurers may require documentation of law firm KM systems).

### **6.5.5 Culture (25%)**

While the positive contribution of KM to firm culture was emphasised in terms of fostering collaboration and networking, it was seen as both an enabler and a result of KM. This will be discussed in detail in chapter 7.4.



### 6.5.6 Current awareness (25%)

Practice specific newsletters were seen as a key contribution of KM as they save a considerable amount of time, which can be explained by a simple calculation: If a KML is working for a group of 25 lawyers and keeps them updated on legal news relevant to their practice, this will save every single one of the 25 lawyers the time to look up these changes themselves. At the same time, the KML researching these newsletters will become more efficient at finding the relevant material and recognising what is relevant and what is not.

### 6.5.7 Training (25%)

A perspective that was not included in the initial success map at all was the topic of using KM for training purposes. Even though this was touched on in the perspective "Culture and Organisation" under the heading standardisation, it was not appropriately addressed. One aspect is creating common standards, what interviewee F referred to as the "house view on complex legal issues", i.e. the opportunity to browse the know-how system in order to find out how a particular issue is being dealt with within a firm, as working practices are likely to differ between firms.

The second and possibly more important aspect is training for junior lawyers, meaning that a know-how system can provide (besides formal training within the remit of a learning and development function or induction courses) the means to help a lawyer grow technical legal skills and broaden their horizon in terms of how problems can be solved. Interviewee J mentioned that one concern among the partnership in his firm was that KM would only be a *"university for trainees and nothing useful for the partnership"*, meaning that knowledge flow would only happen from top to down and not vice versa.

### 6.5.8 Excursion: Standardisation

With four out of the twelve interviewees, the interview led to a discussion around whether standardisation would actually improve the quality of KM services. None of the four listed standardisation as a key value driver, but nevertheless they had strong feelings about the topic. The main point made was that KM should cater for local as well as firm-wide needs, ideally by providing access to firm-wide material, while at the same time also fostering local know-how exchange. Language barriers were discussed in relation to standardisation and different approaches were discussed that are in place in the different firms represented by the interviewees:

- The most common approach was a certain degree of bi-linguality, with documented know-how being available to a certain extent in local language as well as English, e.g. translated titles, abstracts and commentary, while others only had
- Either everything in English or
- Everything in local language only



One firm where everything is thus far available in local language only is currently going through the effort of translating upon request, thus delaying the time until a fee earner gets what he needs. Interestingly in this firm the time for translation is billed to the local office from where the know-how originates, with the intention to encourage know-how in English to be made available upfront. There was broad support for the ideal solution to include at least titles, abstracts and commentary in the local language as well as English with some interviewees pointing out that in jurisdictions where languages that are not predominant international languages such as English, French or German, the tendency is to have most legal documents bilingual by default. For example interviewee J stated that all Czech and Polish documents in "his" know-how systems are bilingual by default. Another issue around standardisation was that most interviewees declared that there were too many points of access to know-how in their organisations and too many different sources with fee earners having difficulty finding their way through them without dedicated researcher support. The essence of the discussion was that standardisation is not a good description of what is actually meant by the word but that nevertheless the indicators behind the term are, according to most interviewees, worth measuring and managing.

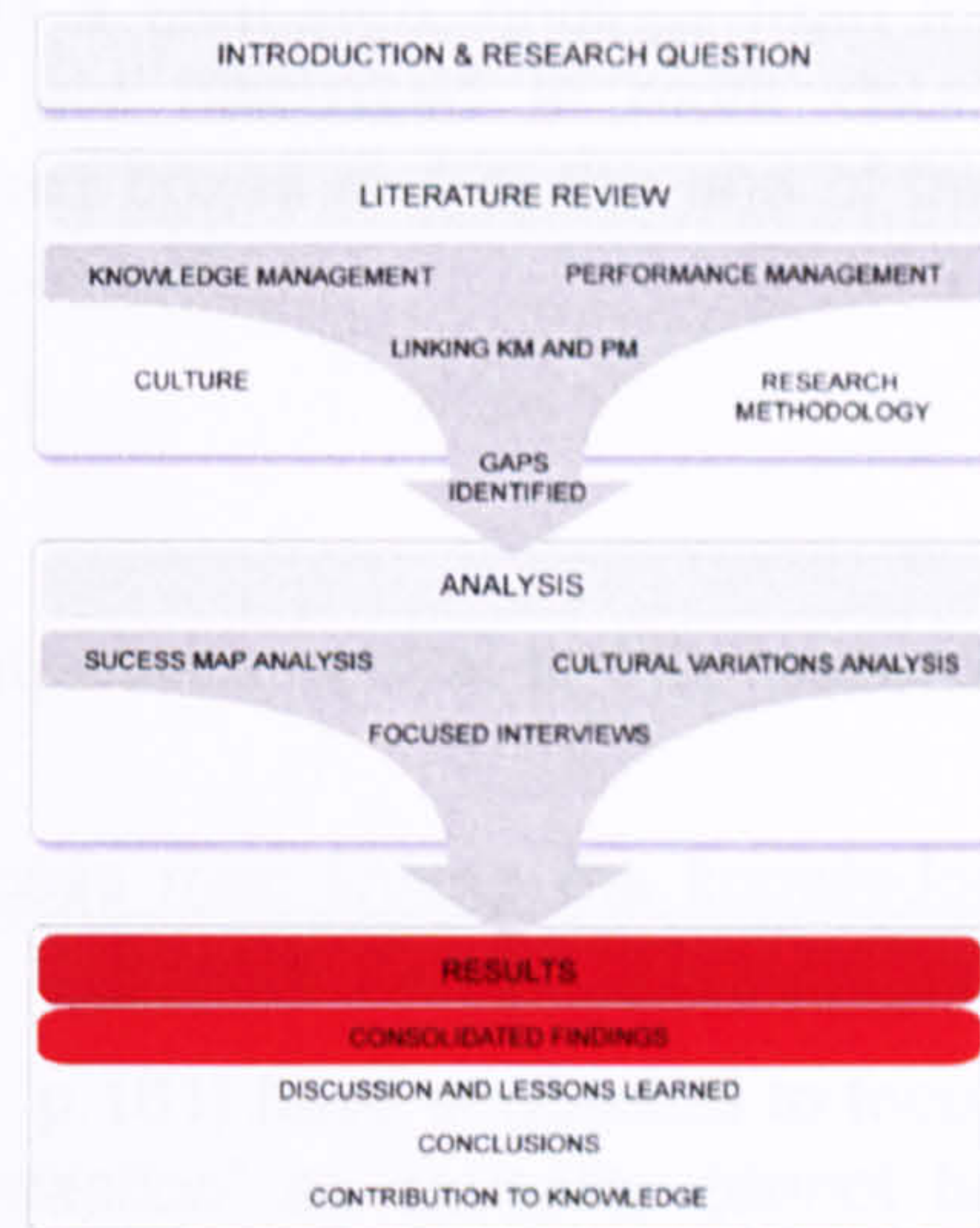
## 6.6 Summary

This chapter summarises the author's use of interviews to investigate the findings of chapter 4 (Success Map Analysis) and chapter 5 (Cultural Variations Analysis) and triangulates the findings from the data collection and analysis methods. Twelve interviews were conducted with lawyers as well as KM experts from the case study company and comparable organisations to explore the findings from the success map analysis and the cultural variations analysis. The next chapter explores these findings, and enfolds the literature, by themes and topics emerging from the interviews.

This analysis finalises the analysis phase for RQ1 now adding relevant value drivers to KM. Section 7.5 shows this link in further detail.



## 7 Consolidated Findings



“Of course, if we knew how to tell management we have contributed (to the business) we’d look a lot better. Trouble is we can make these statements by anecdotal evidence only; we got no numbers they really understand”

*Interviewee J (KM manager US law in the UK)*

### 7.1 Introduction

This chapter provides a general discussion and reflection on the research topic by relating all findings from previous chapters with each other and back to literature. There are three sets of data from each of the three preceding chapters, each data set answering specific questions and in combination showing the “bigger picture” of KM in the professional services environment.

The aim is to provide a complete picture on the impact of knowledge management on law firm performance as well as the key methods to foster knowledge sharing.

The data to support this chapter is drawn from:

- From chapter 4: *Analysis I: Success Map Analysis*: The key findings in terms of which factors influence performance (Mainly researching RQ1)
- From chapter 5: *Analysis II: Cultural Variations Analysis*: Evidence for cultural variations as well as analysis of factors to foster knowledge sharing (Mainly researching RQ2)
- Chapter 6: *Analysis III: Focused Interviews*: Key findings on how experts see KM influencing performance as well as findings on culture and methods to foster knowledge sharing (Supporting RQ1 and RQ2)



As a first step, findings from chapter 4 on the key factors influencing performance are related to interview outcomes as well as literature. As a second step, evidence from the interviews is analysed and then added to the findings of chapter 4 to finalise the statement on the factors influencing performance. As a final step, findings from the analysis of methods to foster knowledge sharing are discussed in more detail. Throughout this chapter the findings are outlined in text boxes and at the end of this chapter the answers to the research questions are discussed.

## 7.2 Answering the research questions

At the beginning of this research the two research questions central to this research were

### 1. Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?

This can be answered positively. Lee and Choi (2003, p.181) have suggested to focus on "*intermediate outcomes such as knowledge satisfaction*" as causality cannot be traced to any single factor linking knowledge processes and organisational performance. This theoretical statement can be empirically supported from this research, where value perception of KM among fee earners has turned out to be the key predictor for higher fee income. A set of predictors of lower significance (compared to value perception) was also identified to have a link to financial performance, which in the case of this research is defined as fee income per lawyer. Additional anecdotal evidence from the focussed interviews contributed to a well rounded overall picture of the value contribution of KM.

According to Darroch (2005) there has been little empirical support for the role of knowledge management in firms. This is the contribution this research provides by answering the first research question: This thesis provided empirical evidence to a variety of assumptions suggesting positive value contribution through KM, previously stated theoretically by Rusanow (2003), Schulz and Klugmann (2005b), Tschida (2004) and Broady-Preston and Williams (2004). Not only have these assumptions been empirically confirmed, but also the underlying reasons for this value contribution explored.

The revised success map now shows a tested and much clearer picture of how KM contributes to organisational performance. Previous statements in literature on the contribution of KM to organisational performance were mostly based on anecdotal evidence and personal experience only.

### 2. Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?

Research question 2 could be answered positively by using descriptive statistics, significance testing and exploring the relationship to cultural dimension models.

Rusanow (2003) as well as Schulz and Klugmann (2005b) had previously discussed methods to foster knowledge sharing without empirical evidence and without



specifically stating which method would be suitable for which layer of culture, be it national or generation level. This research has added this knowledge based on empirical research to existing theory.

The impact of culture on KM metrics was also supported by evidence as variations on the predictors were found to be statistically significant and descriptive methods showed variations for the regional and organisational layers of culture. The important message to take away from this research is that when measuring knowledge, culture needs to be taken into account to reflect reality as it has a strong influence on certain aspects of KM metrics as well as practices.

### 7.3 Knowledge management influences fee income

This is the key finding of this research and this section explores the reasons for by comparing the findings from previous analysis chapters on this specific subject. Regression and correlation methods confirmed that there is a direct relationship as well as an indirect one via the value perception of KM among fee earners, i.e. fee earners with higher fee income also place a higher value on KM, or vice versa, the more valuable KM is considered to be, the higher the fee income of fee earners. To examine the reasons for this, the author reverted to literature and the interview results to seek further clarification on why KM influences fee income apart from the factors that came out of the regression analysis, which are:

#### Factors that predict fee income (in order of significance)

Value perception of KM, Quality of Counsel and legal opinions, personal know-how exchange, ease of use of know-how systems as well as news and current affairs can predict fee income by 26,8%.

#### Factors that predict value perception (in order of significance)

Personal service from the KM team, Quality of internal systems, other Know How, internal newsletter, standard forms, Practice Group related KM staffing and the seniority (job role) can predict value perception of KM by 48,5%

#### Finding 1

This is the first detailed empirical analysis of how KM contributes to organisational performance. It clearly shows a variety of KM related predictors influencing fee income and it supports theoretical guidance by Lee and Choi (2003, p.181), who suggest that *"In order to understand the effect of the knowledge processes on organisational performance, intermediate outcomes (for example, knowledge satisfaction or organisational creativity) may be introduced. Intermediate outcomes reflect different aspects of an organisation's performance, both financial and nonfinancial. This incorporation may help confirm that enablers ultimately create business value."* Value perception was identified as the key driver with other KM related predictors following in lower significance bands.



Literature and interviewees found five more reasons for KM influencing fee income:

1. Reusing know-how raises the quality level of client work.

More consistent, best-in-industry service to clients builds client loyalty and supports a firm's future client revenue stream (Rusanow, 2003). In an environment, where clients are more cost conscious (see also Gottschalk, 2004), providing high value services at lower cost can help in providing the services that clients are looking for. This point was also confirmed throughout the interviews, such as by interviewee B: *"When I draft contracts for the constantly changing needs of clients, I usually get three or four contracts out of the know-how system that provide useful suggestions for the drafting of at least some clauses. As I am mostly dealing with contracts concerning more than one jurisdiction it is very helpful being able to have a look at contracts drafted in different offices"*

2. Current awareness by dedicated KM staff saves the fee earners time and effort to keep up with developments themselves. Interviewee K commented on this: *"It is simply not feasible to maintain by yourself the level of expertise needed to do this job and rightly expected by the clients. These changes in law of course also need to be reflected in the standard forms and someone very knowledgeable needs to work on that."* Current awareness in this context serves a dual purpose: One aspect is that fee earners are kept up to date and therefore know what they need to know to do their job. The other aspect is that they do not need to spend time keeping themselves updated on new developments and can therefore use the time to do billable work.

3. Higher quality know-how makes it easier for junior fee earners to learn and develop their skills. This point was also confirmed throughout the interviews, such as by interviewee F: *"When you are new to a firm there is a lot you can learn by just browsing through know-how. I learned a lot this way."* Delegating work to junior staff allows partners and senior lawyers to concentrate on high quality work and charge premium rates (Rusanow, 2003). If knowledge is made available, it is easier for more junior lawyers to do higher value work. This point was also confirmed throughout the interviews. The billing rates of lawyers are usually determined by their value to clients and their experience. If they can be developed quicker and become more valuable in a shorter time, their billing rate can increase.

4. Feedback loops between KM and the business constantly improve quality of know-how documents, as interviewee E suggested: *"The constant cycle of collection, usage, feedback and added experiences for documented know-how improves the quality of the work done."* Well maintained know-how documents ensure consistency of advice given to clients and at the same time enable junior fee earners to gain deeper understanding on what the firm's approach to a certain topic is. More efficient use of time means a greater recovery of time recorded (Rusanow, 2003). There is usually a large gap between the time recorded and the time billed as inefficiently used time cannot be billed. Consequently, a certain amount of time is never recovered. KM can help in eliminating these inefficient processes and allow staff to focus on higher value tasks. This point was also confirmed throughout the interviews, such as by interviewee E: *"With junior associates KM can make the difference between billable and non-billable hours. If an associate spends ten hours drafting a document from scratch or if he spends ten hours learning from existing know-how and using it to its full extent,*



*thereby creating a great new document himself, the latter will more likely stand a chance of being work that can actually be billed to a client”.*

5. Delegating work and collaborating better with junior staff and better knowledge management tools helps to create more opportunity to develop new services and products (Rusanow, 2003) Just as KM allows higher billing rates and enables junior lawyers to do more senior tasks, it also frees up more senior lawyer's time to work on new opportunities. This point was also confirmed throughout the interviews, e.g. by interviewee G: *“Investment in Knowledge Management certainly influences a firm's fee income and profitability, however I see this relationship to be an indirect one and not via the usual robbery by billing 10 hours for a document that used to take 10 hours the first time and now takes 30 minutes to adapt, but by reducing the work load and freeing up time for higher value work or generating new business.”* Collaboration between fee earners leads to increased productivity, as interviewee L suggested: *“It is one thing to always emphasise the importance of teamwork and make people play role games on every occasion, but in practice, if the culture does not support collaboration, we will always lose out on billable time.”*

A common misperception about KM is the notion that it reduces time spent working on a matter and therefore reduces the hours that can be billed, which would be counterproductive to aiming for higher fee income. An important point made by Interviewee C and supported by literature (Schulz and Klugmann, 2005a) is that the time of uncapped budgets in the professional service sector is nearing its end and that therefore reducing time spent on a matter is becoming a positive rather than a punitive factor of the involvement of KM in the professional service sector. Until very recently, uncapped billing budgets made the law profession unique in so far as improving efficiency was counter to making more money as every hour worked could be billed. Value based billing, where a fixed amount of fees are charged for a certain type of work has become a reality in a more competitive market. Therefore reducing time spent is a valuable contribution by KM.

## Finding 2

Beyond the results from the regression and correlation analysis five explanations for KM influencing fee income were suggested by interviewees that support findings from literature. On a higher level the success map analysis confirmed the positive influence of KM on fee income and therefore gives more weight to possible statements on positive influence of KM on organisational performance that can be found in literature.

### 7.3.1 Lawyers with higher fee income have a higher value perception of KM

The potential reasons identified by the interviewees for this are:

- Senior fee earners care more for the overall success of the firm, either because they are partners or senior associates being responsible for driving business to the firm. They see the benefit of KM when they can task more junior fee earners on matters and they can do the job quicker, or because they themselves use the know-how systems more and understand the necessity for KM.



- They have had more contact with KM as they have been around the firm longer and found it valuable.
- In order to earn higher fees, they need to be more efficient and therefore tap into reusable know-how more frequently.

This issue was seen as a kind of anomaly by some interviewees as usually more junior fee earners value KM higher as they need more guidance and reuse more know-how.

However interviewees saw the reason for this being an direct influence on fee income, such as the explanation by interviewee C: *"...if KM is utilised more this will be reflected in billable hours produced by a fee earner and therefore, once on the bill will reflect in the value perception of a fee earner as he will get credit for it, either in recognition or when appraisal time comes."*

### Finding 3

There is no mentioning of this relationship in literature as there has previously been no empirical analysis of any relationship between KM and fee income. It goes beyond the general finding that KM influences fee income and takes this to the personal level of individual users.

## 7.4 Culture needs to be addressed before technology

Personal service from the KM team is the main driver of value perception. Talking informally to colleagues is a key driver of getting the know-how that enables high fee billing. Both of these aspects cannot be enabled or created by technology, they need to derive from the appropriate organisational values and behaviours.

Cultural drivers led in positive judgement ahead of technological drivers in any question of the fee-earner survey. Relating predictors with a meaning relevant to culture to dimension models confirms a strong affinity of local corporate culture with national culture. National culture therefore reflects on the culture of the entire organisation and has to be taken into account when taking decisions on an organisationwide level that might spark change on the local office level.

This topic is also addressed by Tschida (2004), who suggests that local culture influences acceptance and successful delivery of services provided by the KM function. Rusanow (2003) adds that knowledge management must reflect the culture of the firm. She also stresses that making cultural change is not about dumbing down culture or compromising how things are done – it is about understanding cultural strengths and weaknesses – and addressing these.

Lee and Choi (2003) found a relationship between cultural factors and knowledge creation, from which they extract three conclusions: 1. Shaping cultural factors is crucial for knowledge management, 2. Initiating knowledge management only through



information technology can be a risky proposition and 3. Managers need to establish knowledge management in conjunction with consideration for the firm's culture.

Furthermore their findings provide evidence that knowledge creation is associated with cultural factors such as collaboration, trust, and learning. They see groups as most creative, when their members collaborate and members stop holding back when they develop mutual trust (Lee and Choi, 2003). Interviewee F regards collaboration as a result of KM: *"From my perspective, KM brings the advantage of fostering a friendly, collaborative culture because if you contribute, people are bound to come to you and ask you questions."*

#### Finding 4

This point supports Tschida (2004) as well as Rusanow (2003) and should be taken into account when resourcing KM initiatives.

Throughout the focused interviews, culture was mentioned as an enabler as well as a result of KM:

#### 7.4.1 Culture as an enabler of KM

Without the right culture, knowledge sharing can hardly be successful and there are many different cultural aspects that foster knowledge sharing. In the interviews the following topics came up:

##### Lockstep vs. revenue based compensation

There is little disagreement that lockstep is helpful in fostering knowledge sharing as the fees for the whole firm are being distributed based on seniority and role. Therefore there is a genuine interest in helping others to serve clients with the best available know-how. The same is reflected by literature, where it is stated that knowledge sharing is easier as there is no fear of losing clients but rather the potential for more revenue through others within the same firm. (Schulz and Klugmann, 2005b), (Rusanow, 2003)

##### Billing targets

Some firms have annual billing targets between 1400 and 2500 hours, which is hindering informal advice by knowledge carriers to those seeking their expertise. According to the interviewees, it does make a big difference whether one knows that an expert can be called upon without billing his/her time or whether the expert immediately needs a charge code before even entering a discussion.

##### Staffing

Ensuring sufficient (in terms of fee earner to KML ratios as well as qualification and experience) staffing is an important issue. Badly trained KM lawyers who work in KM because they are not good enough for client work not only limits the quality of the know-how system, but also ruins the reputation of KM.



### Commitment of senior partners

Commitment and being a role model is important for senior partners interacting with more junior staff. It is not only a question of authority but also a question of leading by example when it comes to sharing and reusing know-how. Top management (in this case the senior partners) commitment is one of the single most important factors to make KM a success in an organisation (Schulz and Klugmann (2005a, 2005b), Rusanow (2003), Disterer (2005) and Chourides et al. (2003)).

Disterer (2005) found in his survey that "managing partners, committees and senior lawyers" were the most important support for KM. Chourides et al. (2003) cite "Top management commitment" and "coaching leadership style" as two of the three most critical factors for KM. In this case study, senior partner commitment as measured by the willingness to spend time giving input to KM, is higher than among all other fee earners. But a gap exists between the time senior partners are willing to spend on that input: The willingness to spend little time is higher than with others. However they are not willing to spend a lot of time on this and the more time is asked from them, the lower the readiness becomes. The conclusion to draw from this is that there is high senior partner commitment but that input is limited by the little time available at their disposal.

It is important as well to speak the language lawyers speak, as interviewee J emphasises: *"Of course, if we knew how to tell management we have contributed here in keeping this team's backs covered, with the other guys we been crucial in getting the deal closed; we'd look a lot better. Trouble is we can make these statements by anecdotal evidence only; we got no numbers like the ones they really understand, restructuring deal for this client billing a few grand a day, \$650 mio. merger here, IPO activity getting back on track with 3 new deals for the next couple of weeks."*

Measuring KM and putting value indicators on know-how can significantly improve communication with management, and increase their input to KM strategy.

#### **Finding 5**

This point supports Schulz and Klugmann (2004b) as well as Rusanow (2003) who say that lockstep is good for knowledge sharing. It does not support Chourides et al. (2003) on the topic of most critical factors of KM, as commitment did not come up as a key predictor for organisational performance. Nevertheless it shows that it is an important factor.

### **7.4.2 Culture as a result of KM**

KM can change the fundamentals of a law firm in several ways:

#### Fostering collaboration

Talking informally to colleagues and asking for advice helps to establish relationships among people, especially when it comes to collaboration across business units and national borders.



### Consistency

The reuse of high quality standard forms ensures a common approach across a firm and helps in setting the level for consistent advice to clients. Know how documents can allow new joiners to quickly familiarise themselves with the "house style" of documents and the way "*The way we do things around here*" as Deal and Kennedy (1982, p.4) define culture.

### One firm

In today's global environment, the two points mentioned above make it easier to live up to the idea of being one firm, rather than a multitude of dispersed, loosely connected people across many countries. KM can play a significant role in fostering a common culture and the feeling of a collective effort across offices and nationalities.

#### **Finding 6**

The notion of KM helping to create a collaborative culture – or to be more specific – fostering the adaption to one firm by allowing quicker understanding of the way things are done in a firm has not been previously mentioned in literature.

### **7.4.3 The human component of KM**

Personal service as the main driver of value perception is closely connected to the number of dedicated knowledge management lawyers (KMLs) available to the fee earner, both locally and firm wide on a practice group level. Interviewees stressed that it would be easier to have a close relationship with fee earners when based locally and therefore having higher involvement in client work.

Interviewee E stressed this point: "*The human component in KM is very important. Most KMLs spend several hours a day answering queries, also the type of queries you can't really capture or look up in a know-how database. KMLs are a central function for know-how exchange.*" Firm wide KMLs influence the speed of information availability as well as the quality of standard forms. In PGs with a higher ratio of KMLs, less technology such as discussion forums are needed as know-how exchange is fostered by the KMLs via meetings, updates, newsletters etc. Interviewee C supported this notion by adding that KM in law firms is dependant on locally placed KMLs who are fully integrated in terms of the work done locally as well as ideally sitting with the fee earners so they can respond efficiently to their needs and know what the fee earners are currently working on. Local KMLs trigger similar processes but the personal relationship is stressed as being very positive by the fee earners.

#### **Finding 7**

The human component of KM must not be neglected. Personal service is a key predictor for value perception, which in turn is a key predictor for fee income. Related to the previous finding on culture, this stresses the point that KM is highly focussed on how to deal with people as knowledge and the sharing of knowledge are very personal topics.



#### 7.4.4 The human computer interface part should not be neglected

The ease of use of online systems is important as are the internal systems in general are to the value perception of KM and by extension therefore to fee income.

Gottschalk et al. (2005) warn not to lose sight of the quality of the content when focussing on the technology used. In their research end user satisfaction turned out to be of significance for the share of different types of knowledge in the systems. Advances in IT allow improved access to greater amounts of information and more opportunity to share, but this comes with practical difficulties, such as the suitability of IT structures for different audiences, which for Chourides et al. (2003) leads to the question as to whether an organisation is swimming or drowning in data. Lee and Choi (2003) found a significant relationship between IT and trust in KM systems:

- Information technology is critical for codifying explicit knowledge
- Simply improving the information technology infrastructure does not provide a competitive advantage for knowledge combination
- Managers should pay careful attention to the potential impact of information technology on knowledge combination with the consideration of trust in a firm

Interviewee I emphasised the seemingly small technological advances that can progress KM culture: *"It is sometimes basic things like e.g. here the telephone system is much easier to use and better than in my previous firm. This does make a big difference even though it seems like a small issue. It is a difference if I can click on someone's picture on the screen and it automatically dials rather than me looking up the number, hoping the dial code and everything is correct and then keying it into my phone. Much more happens over the phone here and one will always get better advice from the expert himself than from a document he wrote a while ago and submitted to know-how"*

#### Finding 8

While a previous finding on culture stated that culture is more important than technology, this finding however states that technology also has an influence on KM and needs to be taken into account.

This thesis recommends an approach to KM with more focus on culture than on technology.

#### 7.5 Emerging themes from the interviews

The interviews were analysed to find the top benefits attributed to the implementation of KM in law firms. Table 42 lists the benefits suggested by the interviewees:



Top benefits mentioned	Percentage of interviewees	Interviewees
Efficiency	58% (7 out of 12)	ABCDEFGFI
Quality	50% (6 out of 12)	BDEGJL
Risk management/differentiation	33% (4 out of 12)	EHJL
Long term benefits	33% (4 out of 12)	FHI
Culture	25% (3 out of 12)	GJK
Current awareness	25% (3 out of 12)	BKL
Training	25% (3 out of 12)	AFH

Table 42: Most cited benefits by interviewees

Other drivers mentioned during the interviews include: job satisfaction (2), training (2), simplified processes (1), forward planning (1) and client service (1). *Please refer to chapter 6 for details.* Evidence from the interviews also influences the cause and effect map on the predictors for fee income. Even though the arising topics could not be validated statistically, they are still important for the overall picture. They are the result of interviews with those using or managing knowledge on a daily basis. Figure 16 shows an updated version of the graphic used in *Figure 13: Emerging themes for predominant predictors* now also taking into account the results from the focused interviews chapter:



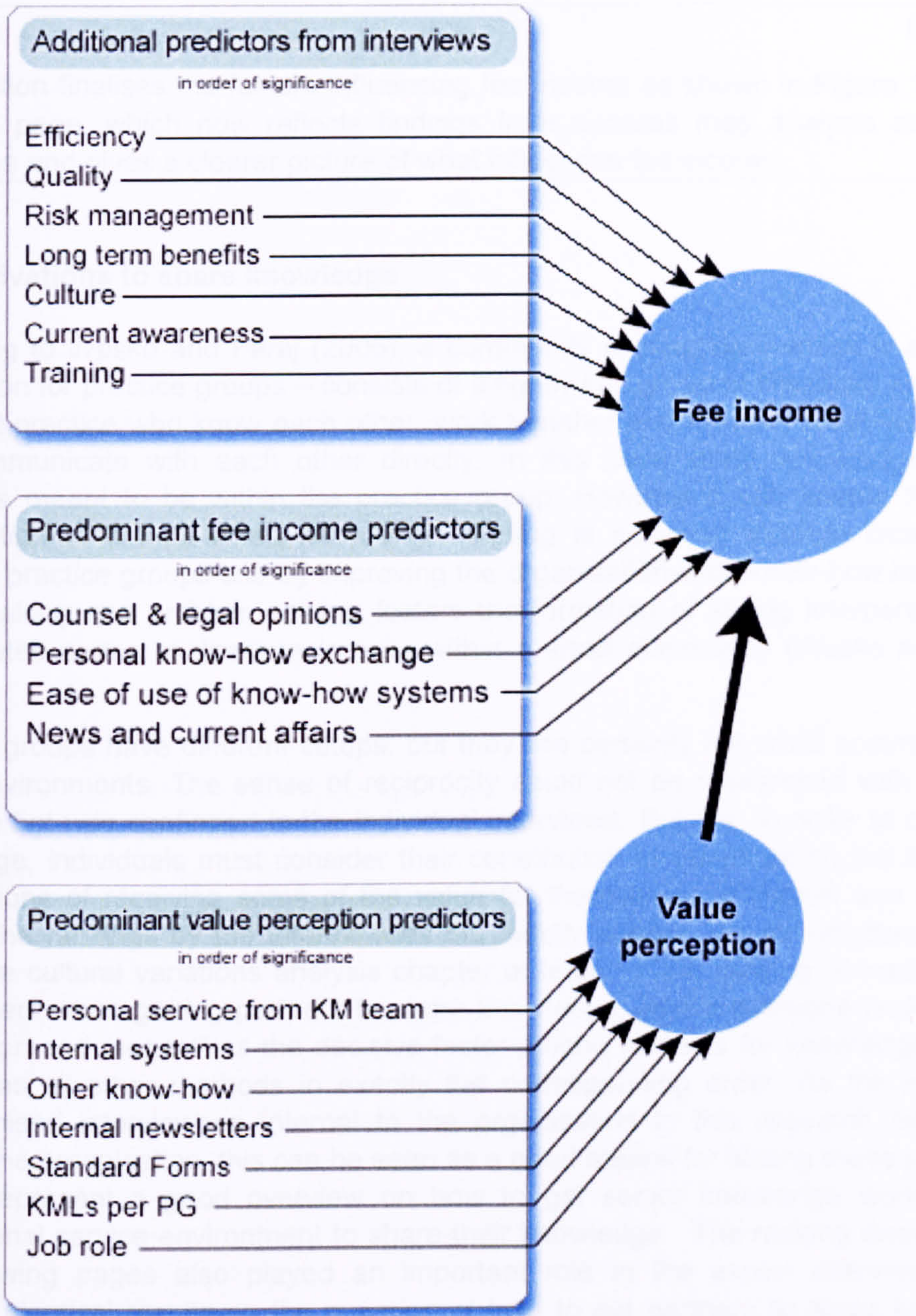


Figure 16: Revised graphic for emerging themes

Higher fee income remains the key desired outcome of all efforts undertaken by a knowledge management function in an international law firm and the causes for higher fee income can be broken down threefold from evidence in this research:

Value perception of KM services, itself predicted by a variety of factors can be found on the bottom of the figure on the previous page, is the key driver identified for fee income. This is followed (in order of significance) by the predictors in the “Predominant fee income predictors” box. The final contribution to this figure comes from the interview section, whose findings can be found on the top left corner of the figure.



Finding 9

This section finalises the factors influencing fee income as shown in Figure 16 on the previous page, which now reflects findings from success map analysis as well as interviews and gives a clearer picture of what influences fee income.

7.6 Motivations to share knowledge

According to Wasko and Faraj (2005), a community of practice – which is a suitable description for practice groups – consists of a tightly knit group of members engaged in a shared practice who know each other, work together and typically meet face to face and communicate with each other directly. In this case study, knowledge sharing initially is meant to be within the practice group. However it can enable the whole organisation to benefit when knowledge sharing is achieved through cross selling between practice groups and by improving the organisation-wide know-how base. Joint sense-making and problem solving fosters the formation of strong interpersonal ties and creates norms of direct reciprocity within a small community (Wasko and Faraj, 2005).

Practice groups have different setups, but they are certainly not small communities in many environments. The sense of reciprocity could not be researched with the data available but was confirmed in the individual interviews. But still, in order to contribute knowledge, individuals must consider their contribution to others worth the effort with expectations of receiving some of the value for themselves (Nahapiet and Ghoshal, 1998). The rankings by the interviewees did mostly confirm the assumptions coming out of the cultural variations analysis chapter at least for the ranking of methods that are efficient when getting partners to share knowledge, where everyone ranked “peer recognition and respect” as the decisive factor among partners for knowledge sharing as well as all other methods in exactly the corresponding order. As the interviews compromised interviewees internal to the organisation in this research as well as outside the organisation, this can be seen as a good means for testing these predictors if they represent a good overview on how to get senior knowledge workers in a professional service environment to share their knowledge. The ranking discussed on the following pages also played an important role in the expert interviews. They reached identical results on the question of how to get partners to share knowledge and slightly different results on how to get non-partner fee earners to share knowledge. Table 43 compares results from the survey and the interviewees:

	Interviewees	Survey
Methods to foster knowledge sharing (partners)		
Peer recognition and respect	1 (1,00 <sup>8</sup> )	1 (75% <sup>9</sup> )

8 The number in brackets for interviewees is the average of the rank assigned by interviewees.  
9 The number in brackets from the survey is the percentage of people who found this method positively effective in getting them to share knowledge.



Contributions count for appraisal process	2 (2,53)	2 (69%)
Authority or direction from partner	3 (2,86)	3 (51%)
Provision of a charge code to record time	4 (3,71)	4 (38%)
A one-time incentive or reward	5 (4,71)	5 (16%)
<b>Methods to foster knowledge sharing (non partners)</b>		
Authority or direction from partner	1 (1,43)	2 (73%)
Contributions count for appraisal process	2 (1,86)	1 (74%)
Provision of a charge code to record time	3 (3,29)	3 (60%)
A one-time incentive or reward	4 (4,14)	5 (43%)
Peer recognition and respect	4 (4,14)	4 (59%)

Table 43: Comparison of methods to foster knowledge sharing: Survey and interviews

Finding 10

This table shows – based on the survey and additional interviews – a further supported ranking on how to get the most senior and valuable lawyers, the partners, to share their knowledge. No previous mentioning was found in literature on the different means to foster knowledge sharing by level of seniority.

7.6.1 Knowledge contributions part of the annual appraisal process (74% positive)

Schulz and Klugmann (2005b) acknowledge the importance of the annual appraisal and state that *“once contribution to knowledge management becomes a regular feature in personnel reviews and ongoing assessments (including the appraisals leading to the decision on the promotion to partnership); lawyers will undoubtedly take knowledge management far more seriously.”*

Rusanow (2003) suggests introducing KM as a criterion in the compensation system and career progression model in all practice groups and regions as a way not only to improve knowledge sharing but also as a way of overcoming cultural barriers, i.e. showing that a firm wide approach across all regions is important.

Broady-Preston and Williams (2004) quote a respondent of a City of London law firm saying: *“...if we focus on the internally generated know-how, it is considered to be a key activity of the lawyers to contribute notes of what they produce, and this is now built into the assessment procedure, so one of the criteria on which they are assessed is their contribution to the know-how systems ... (the concept of know-how) is almost being institutionalised within the processes of the firm”.*

This topic was also commented on by interviewee C: *“Appraisals need to have a strong impact on career development; they need to be deeply entwined as a key part of the*



*career of every lawyer. This is just as important as management support, or to be precise, embedding appraisals that ask for contributions to knowledge is a strong way of showing management support for KM.*" Interviewee J introduced another dimension as to why the appraisal process can be so important for partners: *"It is especially important for partners because underperforming partners get the means to justify their lower performance in terms of hours billed by being able to prove having invested time in other initiatives such as KM or business development"*

The appraisal process – more or less formalised in different firms and cultures – is an important step in the career of each professional working for a PSF or law firm as the general method for career progression can be reduced to "up or out", which means if the next step on the career ladder is not reached, staff is likely to be told to leave the organisation. Where management wants to communicate the message that knowledge sharing is expected and is a contribution to the whole organisation, it needs to take clear steps to ensure this is reflected in the evaluation of each single professional. Once everyone knows that sharing knowledge is tied to progress on the career path and there is no progress without "ticking this box", sharing knowledge will become another key professional skill just like teamwork or personal development.

Whilst this method to foster knowledge sharing is considered effective by 74% of the firmwide respondents, there is a regional variation as well as a variation by tenure that needs to be taken into account when applying this method to improve knowledge sharing. The regional variation is statistically significant and ranges from UK (81%) to the least in Asia (65%) and Continental Europe (German) (67%). The difference by tenure could not be confirmed as statistically significant.

#### Finding 11

While embedding KM in career progression is discussed in literature (Schulz and Klugmann (2005b); Rusanow (2003); Broady-Preston and Williams (2004)), it has not been previously empirically tested and ranked as to its impact compared to other methods of fostering knowledge sharing. There has also been no mentioning of the applicability of this method across different regions. Embedding knowledge sharing in career progression works best in the UK and the non-German speaking part of continental Europe.

#### 7.6.2 Authority or direction from partner to spend time on contributions (73% positive)

*"One form of incentive which should not be underestimated is the role of (senior) management itself; if a senior partner is willing to share his personal "stores of knowledge" with his colleagues and to put his own collections of precedents, memos etc. at the disposal of other members of the law firm, then this example often encourages other colleagues to follow suit."*

Schulz and Klugmann (2005b)



Even though the applicability of authority as the means to foster knowledge sharing differs by culture and associated working practice, this is nevertheless a major method to do so. Where appropriate, sharing knowledge can be ordered by the responsible line manager or partner a professional works for.

There is a regional split as well as a split in tenure in terms of applicability of this method, of which region was confirmed as statistically significant with Asia responding 86% positive, USA 83% and Continental Europe (German speaking & CEE) only 67%.

#### Finding 12

While authority as the means to foster knowledge sharing is discussed by Schulz and Klugmann (2005b) it has not been previously ranked as to its impact compared to other methods of fostering knowledge sharing. There has also been no mentioning of the applicability of this method across different regions and tenure. We now know that authority is the best means to foster knowledge sharing in the US region and Asia.

#### 7.6.3 Provision of a charge code to record the time used for KM (60% positive)

A charge code can help to justify the time spent on KM and can help reach the goals set for fee earners in terms of the number of hours they need to bill each year. If KM is treated just like client work, this could help to raise the profile and therefore enable lawyers to spend time on contributing their knowledge to a know-how system.

*"In law firms where lawyers are expected to achieve a certain amount of chargeable hours, an incentive for contributions to knowledge management could be to put knowledge management work on an equal footing with client work, thus encouraging lawyers to spend some of their free capacity on knowledge management work without being afraid of losing out on billable hours."*

Schulz and Klugmann (2005b)

This is also a key finding of Muir (2005) who states that *"the pressure of meeting billing targets and so maximise monthly or annual billing figures is such that taking even 5-10 minutes to deal with a non-billable matter is not seen as being important i.e. billable client work must be completed first it can be argued that firms with a system of annual billable hours are potentially limiting the contribution and sharing of knowledge within their firms."* (Muir, 2005, p. 47)

To resolve this barrier to spending time on knowledge contributions or reviewing existing know-how, providing fee earners with a charge code could ultimately lead to higher contributions as the time would thereby become justifiable.

The firmwide number of 60% positive for this method to foster knowledge sharing could be confirmed as having a statistically significant deviance for region and tenure. This method has strong applicability in the US (83%) but far less in Continental Europe (German speaking & CEE) (53%) or Continental Europe (rest) (52%). The reliance on



charge codes decreases steadily with tenure from an initial high on 68% in the range of less than one year to a low of 43% for those with "More than 5 years".

### Finding 13

This supports the findings by Muir (2005) and Schulz and Klugmann (2005b) with empirical evidence. Also it provides a ranking of the applicability of these methods across regions and tenure. The provision of charge code is the best means in the US region and generally among more junior fee earners.

#### 7.6.4 Peer recognition and respect (59% positive)

*"Social exchange theory (Blau 1964) posits that individuals engage in social interaction based on expectation that it will lead in some way to social rewards such as approval, status and respect"* according to Wasko and Faraj (2005, p. 39). This means that each individual can gain reputation and respect through participation in the network. This works independent of whether this is an internal network or an external network.

Gottschalk (2005) recommends that it will be crucial to reward through feedback, either personally or publically for sharing knowledge. Lawyers will feel more valued, and this will send out signals that knowledge sharing is a core corporate value.

Another very interesting issue that could not be researched in this case study, but that came out of a case study by Gottschalk et al (2005) in a law firm context, is the research into attitude towards own contribution. Attitude towards own contribution is concerned with how lawyers see themselves, meaning if they consider themselves highly competent in a certain area and likely to improve the organisation's performance with their knowledge: *"In our case, if a lawyer does not believe his or her knowledge may actually be useful for the organisation, he or she will not share own knowledge. On the other hand, if the person thinks that own knowledge is valuable and useful, the person will share it."* (Gottschalk et al., 2005, p. 12)

Gottschalk (2005) positively tested for a correlation between belief in one's own contribution and actual contributions. He recommends strengthening confidence as a way of getting more contributions to know-how.

Taking into account partners having the longest experience and highest value to the business, it needs to be emphasised that while the basic reasoning behind the five methods to foster knowledge sharing hold true for them as well, the efficiency ranking of the methods changes.

Most important is peer recognition and respect (75%), which only ranked 4<sup>th</sup> place among non partners. Interviewee I explains the different notion of respect among non partners: *"It is more important for partners than for associates, as among associates the main thing is billing and peer recognition comes out of this not out of sharing knowledge. They are more among themselves, and almost up against the partners, who command them and respect is earned less with sharing but with having more billable hours than the others."*



Partners are key carriers of the firm's know-how and their contributions can ensure coverage of issues that cannot be covered by junior lawyers, therefore the culture needs to change towards enabling peer recognition and respect among partners. Again, transparency and measurement of KM initiatives, e.g. a list of the 10 top partners who submitted know-how or who spent their valuable time reviewing know-how and increasing its quality can help bring KM to a level where the most valuable knowledge is contributed by partners.

The second ranking means to foster knowledge sharing among partners is to include it in the appraisal process. In most firms it has become easier to get rid of underperforming partners and appraisals have become more formal. Some of them now ask KM related information as part of the performance assessment.

Interviewee J added to this *"Within the partnership awareness for KM has significantly increased once KM was on the agenda in the 360 degree review rounds for partners, where serious shortcomings in terms of knowledge sharing, even within their own team were identified, but then KM remains one of many issues on 360 degree review, they know there won't be any trouble as long as most other factors are fine, but we realised partners who were criticised in other areas suddenly developing an interest in KM. But then again, I am comfortable with that if a partner makes up for his lack in, say personal development with starting to share know-how."*

In this research, there is a statistically significant deviance across regions and by tenure. Asia has the lowest applicability for this method with 47% and Continental Europe (German) the highest with 61%. It is also the key method to encourage the most senior people to share their knowledge.

#### Finding 14

There is no previous mentioning of differences in incentivizing partners, even though they are the most senior and most experienced lawyers in firms and their know how is therefore expected to be most valuable. This research suggests focusing on fostering peer recognition and respect as the key means to leverage their knowledge, while regionally this is least effective in Asia and on the same level of efficiency in all other regions.

#### 7.6.5 A one-time incentive or reward (43% positive)

The biggest factor coming out of this case study is that incentives for knowledge sharing can be defined in different ways. As shown in this research, the one time incentive is not what people are after, so the question remains what type of incentive makes people share what they know.

Schulz and Klugmann (2005b) recognize the importance of incentives, defining them as praise: *"Lawyers and other staff actively supporting knowledge management should be lauded and praised, for example, and if senior management has successfully*



*communicated the importance of effective knowledge management, such praise will be recognised as a sign of distinction.” (Schulz and Klugmann, 2005b).*

Ultimately, all points mentioned above are some type of rewards. The subject of incentives is often discussed in KM literature, and studies have pointed into either direction. The outcome of this research is certainly that one-time incentives are the least effective means, but that the longer term rewards will encourage more people to share knowledge.

However, Wright (2002) gives the example of a law firm that successfully used direct remuneration for knowledge sharing. The firm in Wright’s case study implemented a system of bonus points that could be accumulated for meals, entertainment or even travel. With a regional variance, the buy in was strong and the bonus point distribution was used as a KM metric.

One time incentives could be confirmed to have a statistically significant variation by region and tenure. In Continental Europe (German) it is the least important with 32% and in Continental Europe (rest) the most important with 59%. The German and American region stand out with the most with reluctance to accept one-time incentives as a means for increasing contributions to KM. Also the applicability of one-time incentives decreases with longer tenure.

#### **Finding 15**

One time incentives, while looked at in comparison to other means is the least effective method, is most effective among junior lawyers and in the non-German speaking part of continental Europe and the UK. It is important to emphasise that this method was ranked least effective across all regions. This does not support Wright (2002).



7.6.6 Methods matrix

This leads to a matrix proposing the best way to foster knowledge sharing for each of the case study organisation’s region and generation level where a statistically significant relationship could be found:

Region/Tenure	Most effective methods to foster knowledge sharing
Asia	Most effective is authority or direction from partner, then provision of a charge code to record time
UK	Most effective is to make contributions count for the appraisal process, then authority or direction from partner
Continental Europe (German speaking)	Most effective is to make contributions count for the appraisal process with equal results for authority or direction from partner.
Continental Europe (rest)	Most effective is to make contributions count for the appraisal process, then authority or direction from partner
US	Most effective is authority or direction from partner, then provision of a charge code to record time
Junior fee earners <sup>10</sup>	Most effective is provision of a charge code, then peer recognition and respect
Senior fee earners <sup>10</sup>	Peer recognition and respect is the most efficient means to motivate senior fee earners to share knowledge, with even higher rating when limiting the sample to partners only. The second most effective means is provision of a charge code.

Table 44: Methods matrix

This methods matrix presents the best two methods to foster knowledge sharing for each region and for two levels of seniority within the case study organisation.

Finding 16

There is no previous mentioning in literature of the applicability of different methods to foster knowledge sharing across cultural layers such as region or generation level.

<sup>10</sup> Authority or direction from a partner as well as contributions as part of the appraisal process were not found to be statistically significant in relation to tenure.



## 7.7 Summary

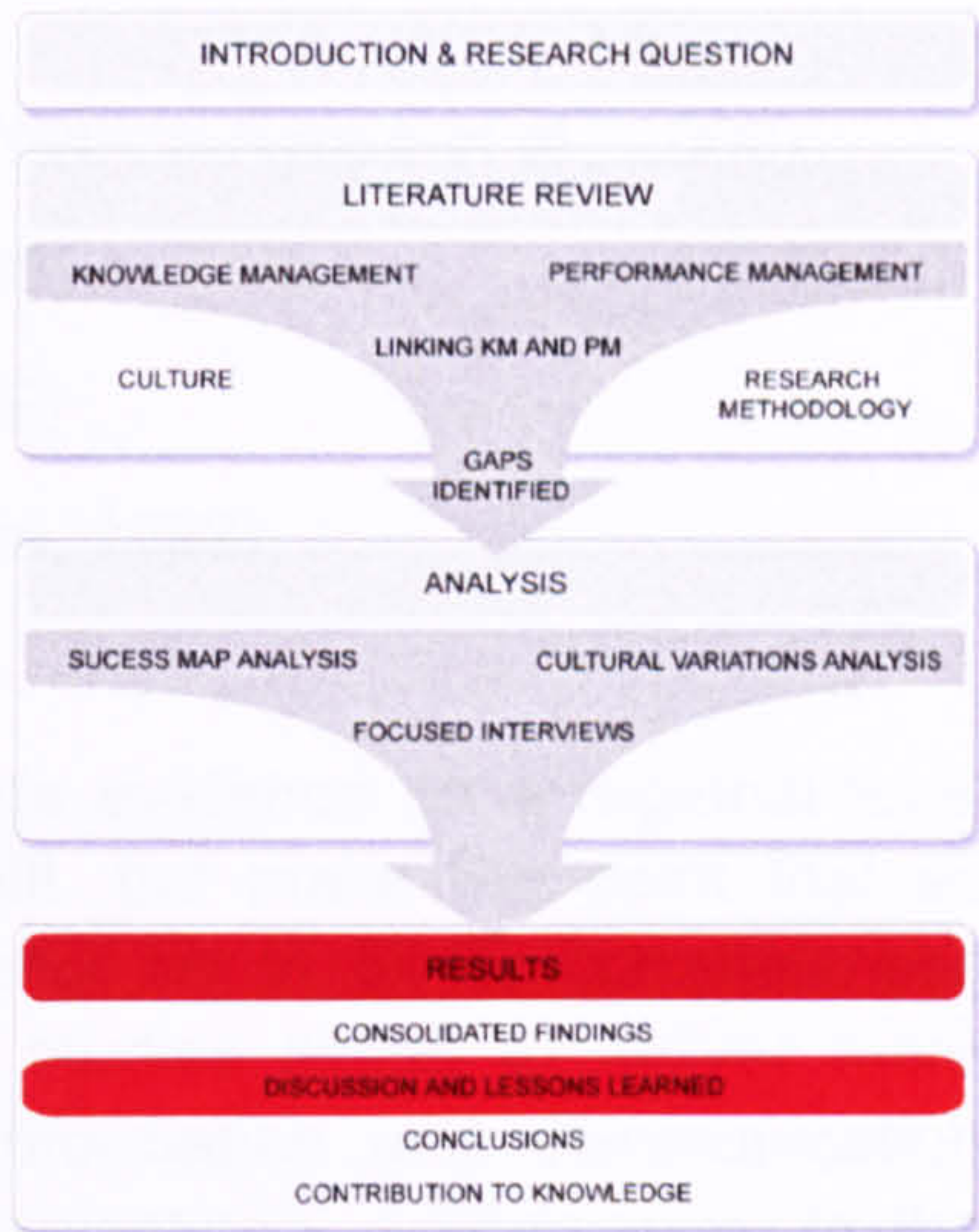
This chapter concludes the triangulation effort by drawing from the results of the previous chapters. The findings are related back to literature and thereby cross validated.

A key finding of this chapter is that the key messages from the success map analysis such as the assumption that KM influences performance could be supported. The importance of partner commitment is emphasised and more detail is provided on the methods to foster knowledge sharing as identified in chapter 5. Among these methods career prospects related to knowledge sharing are considered most important by survey participants as well as expert interviewees.

The meanings of these findings for the case study organisation in particular and for KM, PM and culture in general are reflected on and discussed in Chapter 8.



## 8 Discussion and Lessons Learned



“Thinking about a scorecard or any other way of measuring makes people ask the right questions. Many of us in KM have gotten too caught up in daily work and are losing track of the fact that we are actually doing this to improve client service. We are not in it for anything else.”

*Interviewee J (KM manager, US law in the UK)*

### 8.1 Introduction

This chapter presents a high level perspective on the results and their meaning for the research areas as well as lessons learned from the project under research and from this thesis. This chapter sums up the findings and discussion from the previous chapters, the result of the triangulation and clarifies what these results mean for the scorecard model, communicates the key message to take away in relation to culture and looks into what these results mean for knowledge management and performance management. The final part of this chapter is reserved for personal lessons learned by the author during the course of this research. But to put this research in context, as a first step the validity of the concept is addressed:

### 8.2 Measuring intangibles by means of correlations: validity

Measuring the impact of KM on performance is a relatively new development and even though EU projects such as MERITUM or EKNOW have, according to Bukh and Johanson (2003) aimed at establishing common practices and terminology, there is still little practical application and analytical research on the topic, as Martin (2004, p. 80) states: *“It is interesting that even those people at the forefront of developments in knowledge metrics concede that the practice is still at an experimental phase and that much more needs to be done to implement these metrics outside of the originating organisations.”*



OECD research at the macroeconomic level has identified several business intangibles such as R&D, education and work force training that correlate positively with GDP or productivity growth (Eustace, 2000). There are several studies that provide evidence of correlations between

- Quality of human resources and value of firms (Garcia-Ayuso et al., 2000)
- Training investments and profit (Bassi et al, 2000)
- R&D and productivity (Lev and Sougiannis, 1999)
- R&D and shareholder value (Lev and Sougiannis, 1999)

Grasenik and Low (2004) also cite studies that provide evidence on a regional level with similar results in relation to innovation and profit, but make the point that as innovation is a complex mix of many things, it cannot be in all its completeness measured by single indicators. Another topic where studies aimed to deliver more clarity is the relationship between investments in information and communication technologies (ICT) and investments in R&D and organisational performance. In the case of R&D, other than the study mentioned above by Lev and Sougiannis (1999), there is evidence that there is a relationship; although not a very strong one as identical values of invested tangible assets have been identified to lead to different results. In the case of ICT investments, a relationship to firm performance could not be demonstrated, which Grasenik and Low (2004) explain as ICT being an enabler of innovation and growth embedded in complex factors, as for example, the receptiveness of entrepreneurial culture. Knowledge is very difficult to measure using single indicators and the purpose of this research is to show how important parts of it can be measured and to show how causality can be determined.

*“The processes involved are complex and do not yield to analytical methods.”*

Grasenik and Low (2004), p. 269

Martin (2004) sees other issues besides the complexity of knowledge, such as the likelihood of inaccurate weightings, the combination of quantitative and qualitative measures and the issue of too little differentiation between measuring (quantifying inputs and outputs) and valuation (placing a monetary value on either current or predicted assets). A key issue is the lack of understanding of the links between key aspects of IC and value expressed in terms of business performance. He also argues that even though there are these uncertainties, at least there are actually – finally – systems in place that aim to measure intangibles.

The processes involved are complex, but the author does not believe they are too complex. Therefore researchers can aim to explain parts of the process or to establish certain statements based on evidence acquired, such as that KM does contribute to higher fee. It can also be researched how KM contributes to higher fee income.



The author has used multiple data collection and analysis methods to triangulate results and increase the confidence in the causalities established and the explanations for these causalities, to overcome some of the limitations of relying on statistical analysis alone.

8.3 Changes to the success map

The findings of this research have altered the initial scorecard model, improved the understanding of KM and led to a rethink towards integrating culture when measuring knowledge. The success map looks slightly different after three rounds of analysis. It now shows indicators that are based on:

- Analytical evidence from chapter 4, “Success Map Analysis”
- Analytical evidence from chapter 5, “Cultural Variations Analysis”
- Anecdotal evidence from chapter 6, “Focused interviews”, these are predictors that have not yet been empirically validated.
- Summary of combined analysis from chapter 7: “Discussion of findings”

Figure 17 shows a cause and effect scenario built on these results. This takes into account the initial scorecard, replacing existing indicators with those that came out in the models as significant. Text in grey are indicators from the initial scorecard that could not have been deemed significant from research thus far.

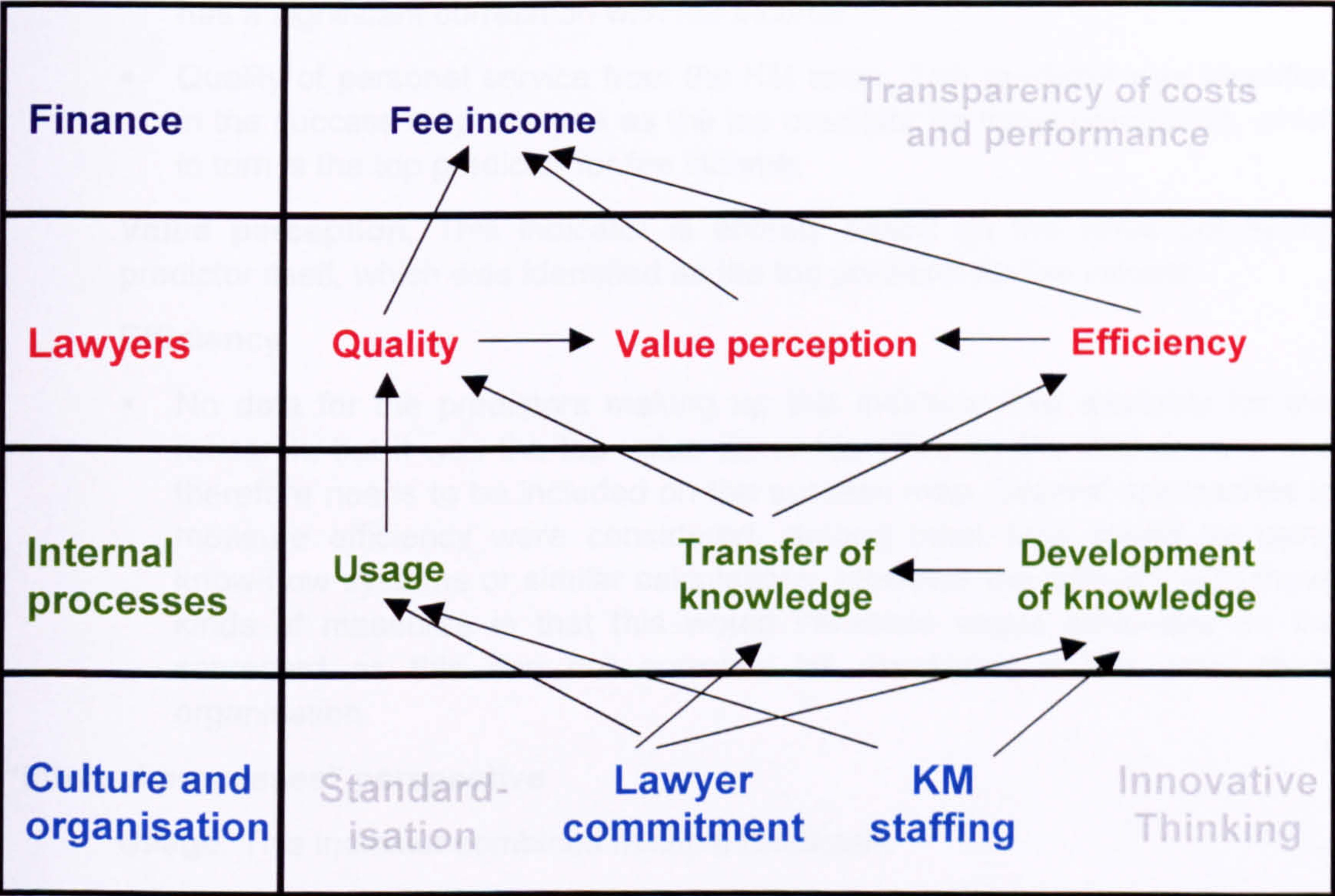


Figure 17: Revised success map



To summarise the changes in the scorecard, chapters 4, 5 and 6 have been revisited to show which predictors make up the indicators on the success map:

### **“Finance” perspective**

**Fee income:** The indicator productivity, which initially consisted of four different predictors, was reduced to fee income, which was identified as the main goal of the success map, the desired effect of all causes. Another reason for reducing the four predictors down to this one was the fact that other predictors had some pre existing relationship to fee income, e.g. hours billed or ratio of hours worked to hours billed, meaning they were auto-correlated and therefore unfit for separate analysis. Please note that fee income is therefore a simplified measure for productivity and does not include other factors that cannot be influenced as directly by KM such as the remaining profit or profits per equity point.

### **“Lawyers” perspective**

**Quality:** This indicator combines multiple predictors:

- Quality of counsel and legal opinions. This predictor was identified in the success map analysis as one of the key predictors for fee income.
- Ease of use of know-how systems. This predictor was identified in the success map analysis as one of the key predictors for fee income and also has a significant correlation with fee income.
- Quality of personal service from the KM team. This predictor was identified in the success map analysis as the top predictor for value perception, which in turn is the top predictor for fee income.

**Value perception:** This indicator is entirely based on the value perception predictor itself, which was identified as the top predictor for fee income.

### **Efficiency**

- No data for the predictors making up this indicator was available for this research, but it was the top value driver identified by the interviewees and therefore needs to be included on the success map. Several approaches to measure efficiency were considered, among them time saved by using know-how systems or similar calculations. However the difficulty with these kinds of measures is that this would introduce vague estimates on the scorecard as this can not currently be measured in the case study organisation.

### **“Internal processes” perspective**

**Usage:** This indicator combines multiple predictors:

- Usage of news and current affairs. This predictor was identified in the success map analysis as one of the key predictors for fee income. It was also among the top seven business benefits identified by the interviewees.



- Usage of other internal (know-how) systems. This predictor was not confirmed in the success map analysis but strongly suggested by the interviewees. A point introduced by the interviewees was that KM by nature reduces risk by fostering reuse of quality know-how. This therefore needs to be monitored.

### **Transfer of knowledge**

- Personal know-how exchange with peers. This predictor was identified in the success map analysis as one of the key predictors for fee income
- Training. No data for this indicator was available for the success map analysis, but it was a key value driver identified especially by fee earning interviewees. This predictor would need to include information on efficiency of junior lawyers using the know-systems and eventually also include parts of the personal service from the KM team predictor where applicable.

**Development of knowledge:** This indicator combines multiple predictors:

- Personal service from the KM team. This predictor was identified as a key predictor for value perception, which in turn is the top predictor for fee income.
- Growth in know-how database. This predictor was not confirmed in the success map analysis but strongly suggested by the interviewees.

### **“Culture and organisation” perspective**

**Lawyer commitment:** This indicator combines multiple predictors:

- Willingness to participate. This predictor was identified as having a significant correlation to fee income.
- Partner commitment. Partners are the true customers of KM, as they pay for it. Their commitment needs to be monitored and was identified as valuable in the cultural variations analysis.

### **KM staffing**

- Local KMLs. This predictor was identified as having a significant correlation to fee income.
- KMLs per Practice Group. This predictor was identified as having a direct correlation to fee income and was identified by interviewees as a key requirement to make know-how accessible.

Compared to the success map Figure 12: Success Map in the Knowledge Scorecard project, this is a slightly different picture of how knowledge management works within the organisation, but adheres to the same basic ideas and supports the perspectives and the idea that KM influences the financial side of the business positively.

The revised success map is better than the initial one because:



- It builds on realities within the case study organisation and analytical research into causalities, it is a model supported by analytical evidence,
- It has fewer predictors as those that could not be confirmed to be relevant were removed,
- It is based on predictors tested on their significance for fee income.

As discussed in the previous chapter, the findings confirm the suggestions that were made without analytical evidence by Rusanow (2003), Schulz and Klugmann (2005a, 2005b) and expand into further detail than e.g. Eustace (2000) by not only correlating on a country level but in a more detailed level in one case study organisation. What this success map provides is the means to understand better what is happening within the KM function of the case study organisation. Measuring and therefore understanding better which of the services offered really add value leads to insight and insight leads to action, as Bourne et al. (2003), p. 15 say: *"Measurement has to lead to insight and insight to action"*. This is the key benefit of the model itself: It allows management to take better informed decisions as it:

- identifies key measures that are collated into a single management dashboard
- assists in enabling measurement and to provide more effective KM services to lawyers
- improves the ability to monitor potentially chargeable services
- improves the ability to measure and report on cost and resource allocation
- improves the ability to efficiently track the changing value perception of KM and KM initiatives
- improves responsiveness to financial and organisational issues as they arise
- facilitates improved communication with the partnership about KM and the service the KM team provides
- assists in the process of determining returns on investment in KM applications and services.

As Martin (2004, p.85) states in relation to measuring intangibles, *"the effort is likely to be well worth it in terms of organisational performance, strategic alignment, the enhancement and retention of strategic knowledge capital and to some extent the justification of knowledge management investments."* As for the first research question, whether cause and effect relationships can be validated, yes they can be, to some extent and in this case.

The author considers the second question about patterns across different practices and cultures giving more of an insight into detailed processes that are happening in KM and why they happen.



## 8.4 The meaning of the findings for culture

Culture itself is not a predictor or indicator on the success map of this scorecard, however the author believes it should be a mandatory filter to use when looking at the live scorecard to understand the differences in the raw numbers.

The essence of the cultural variations analysis is that it is critical to consider local specifics when measuring KM. Therefore, just like a health warning on a piece of know-how addressing possible risks for reuse, performance management for knowledge management needs to come with a health warning reminding the user to take national culture into account before making decisions based on indicators.

The practical implication of this is that thresholds and measures need to reflect national culture, e.g. in cultures that comparably value the organisation's well-being more than individual desires it will be easier to foster knowledge sharing without offering incentives or authority to force people into knowledge sharing. In Germany for example, all the way through their formal education process lawyers are told that being a lawyer is being a free man, a lonesome rider, the administrator of justice, not an employee working as part of a large organisation and this of course does not make knowledge sharing an easier mission in German law offices. Of comparable significance is an obstacle to KM found in the US, where time not billed is time wasted. Local specifics like this can make the difference between seeing something as a success or failure. It is hard to measure intangibles but it can be done and when aiming to do so in a thorough way, it is absolutely necessary to take culture into account.

The major cultural obstacles in terms of knowledge sharing in terms of country specific issues are well known anecdotally. An analysis using Hofstede's model helps to explain and predict knowledge sharing behaviour more precisely.

In the constantly ongoing discussion among KM practitioners as well as academics whether culture or technology is more important, the findings of this research lead to the conclusion that technology should be treated as a necessary tool but that culture is key to enable KM to work. Culture is an enabler as well as an outcome of KM efforts.

## 8.5 The meaning of the findings for knowledge management

The assumption that knowledge management has a positive impact on revenue can be supported by evidence from this research. To date these statements were either highly theoretical or based on anecdotal evidence only. This research provided evidence that fee income can be predicted by a set of KM related predictors and identified those indicators.

The case study organisation is highly knowledge intensive. There is neither input nor output that is not knowledge. It is sensible therefore that the main drivers for fee income are centred on human perception.

Value perception of the KM services was identified as the key predictor for fee income and personal service from the KM team was in turn identified as the key predictor for value perception. Even though KM is in essence a means to automate work and also to make human knowledge more transferable, it remains a discipline highly dependant on



human interaction. This was also supported by the link found between dedicated KM staff (KMLs) and improved performance.

Personal know-how exchange remains crucial in achieving the desired level of transfer of knowledge. The case study organisation is a recognised leader in the implementation of KM and the author would therefore not suggest that personal know-how exchange is due to insufficiently suitable KM resources, but rather that this is because lawyers still prefer personal exchange over means facilitated by technology.

Other results such as the key role played by certain types of know-how available, such as news and current affairs or the very narrowly defined resource type of counsel and legal opinions stresses the need to identify know-how that really adds value. In a time of information overload it is crucial to identify which sources of know-how add value to avoid knowledge workers drowning information they don't need while lacking the resources to provide them with the knowledge they require.

Research into the motivation needed for lawyers to share knowledge revealed high dependency on some kind of reward, be it in the form of improved career chances or peer recognition. However, authority was also identified as a key enabler. While on high level view across the entire organisation career chances and authority were identified as the top motivational factors, there are significant differences of the applicability to single regions or countries.

On a more general level, this research is one step on the way to make the intangible resource knowledge more clear in terms of its value. However, the current state of research is still far away from entirely understanding the value chain or the entire picture of how knowledge can be managed.

## 8.6 The meaning of the findings for performance management

The concepts of performance management can be applied to measure and manage knowledge. It is a key concept that fosters greater understanding and transparency of intangible resources. The balanced scorecard concept, developed for a corporate level view, can be applied to a department like KM as was done in the context of the case study organisation. The success map, a core feature of the BSC, provides the key to understanding cause and effect. This research has changed the success map used in the case study organisation. The initial success map was based on a series of workshops, a review of literature and existing processes within the firm and has now been refined to reflect tested relationships and input from interviewees.

A danger identified in the BSC concept is that application to a global environment involves the risk of neglecting cultural variations when interpreting the results. This risk can be minimised by providing additional information on known cultural variations, by e.g. applying cultural dimension models such as the one positively tested in this research.

The flexibility of the concept of the BSC is a key attribute that allows the creation of a BSC in a KM environment and enabled this research to function. However, without a success map, a BSC would be a mere set of indicators, with no direction or strategic capabilities.



## 8.7 Personal lessons learned

The very early starting point of this research was when the author started working in the professional service environment almost 5 years before the end of this research, equipped with the serious conviction that anyone can be convinced to embrace the principles of KM because *"knowledge is the only thing that grows when people share it. If I know something and let you know, then both of us know, 1+1 = 2"*<sup>11</sup>. Four weeks into the new job and tasked with assessing KM in the case study organisation, the author realised that KM not only lacked acceptance in the real world but also that ways to bring that acceptance were scarce. In this section the author would like to add a more personal reflection on some of the subjects discussed in this thesis.

### 8.7.1 Knowledge management

In the last five years of working in a professional service firm KM environment, the author has seen roughly four phases of KM:

1. First of all the discussion around the meaning of knowledge and the distinction of data, information and knowledge (a lot of the well known pyramid drawings)
2. Then – once people had come to terms with the definitions and were promised huge opportunities to benefit from KM – there was the phase of slightly too much trust in IT vendors (in line with most other disciplines during the time of dot.com) until the realisation that KM is more about people and IT is playing a support role in KM.
3. The third phase was a focus on aligning KM with strategy and business objectives.
4. Finally – for approximately the last two years there is a rising need for measuring and managing the KM function by addressing the need for measures beyond anecdotal evidence.

Law firms are very profitable businesses, with profit margins between 30 and 50% (TheLawyer.com, 2005) with only one product sold: knowledge. This could be an explanation for law firms being early adopters and high investors in KM. The level of specialisation and therefore specialist knowledge has grown steadily with the size of law firms and law is by now just as specialised as medicine. One of the effects of specialisation is that complexity in daily work is being reduced as specialist lawyers now do work according to their area of specialisation and will more easily recognise patterns and can therefore solve seemingly complex problems with less effort and based on existing knowledge (see also Scott and Christiansen, 2004). This rising need for measures is less about justifying investment, which was an enabler for starting discussions about measurement. The author feels it is now truly about cause and effect, seeing what KM can do and capitalising on the benefits to the maximum extent possible. The benefits – as discussed in this thesis – are numerous, especially in the law firm environment the author is accustomed to and acceptance has risen

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<sup>11</sup> A sentence the author heard very often on early KM conferences and presentations



significantly among partners who – at the end of the day – pay for KM out of their share of the profits, which makes partners the true customers of KM, not associates or trainees.

In the case study organisation acceptance is high, as shown in chapter 5.2.2.1 on senior partner commitment and without it, life would be much more complicated in the KM function. On the topic of growing awareness and implementation of KM the author has also witnessed a surge of job moves within his personal network towards newly created KM positions in professional service firms and industry.

One indicator that was not discussed, as it was not included in the initial scorecard, and was brought up by only one interviewee is the topic of KM having an influence on client service, not only on the return from client service, fee income. This came as a surprise to the author as over the last years the topic of what KM can do for the client was high on the agenda within the case study organisation as well as the law firm KM environment.

As for the discussion around the multiple interpretations on the definition of intellectual capital it needs to be stated that dividing up IC into ever more subcategories is unhelpful. It is useful as it helps consider more types of IC and contributes in the thought process for developing indicators and fostering a greater understanding, but it would complicate the provision of an efficient scorecard in so far as it certainly does not raise acceptance on the management level. It also ignores reality in terms of available data to be measured. Summing up the multiple definitions found, there is the more simple definition that the benefit of intellectual capital is when knowledge is capitalised on. This knowledge can be held in and seen from multiple perspectives of any part of an organisation, be it human, social, organisational or any other source of knowledge within an organisation. More complex definitions can certainly aid in the discovery process. The author strongly believes that efforts undertaken by organisations to recognise the importance and capitalise on their knowledge has by far not reached the point it should have.

The author also fully acknowledges that even highly focused working practice changes or the total integration of technology cannot turn all tacit knowledge into codified and formalised knowledge (and that is comforting to know as well), but they can help to harvest a higher percentage of the tacit knowledge than can currently be tapped into and used.

The term knowledge management itself has been well established in multiple organisations and associations of practitioners and certainly in the law firm environment. However there is high uncertainty in what form KM will continue to exist, or to be more precise, under which label it will continue to exist, as Friedman (2005) puts it on his blog: *“A dozen years from now, perhaps we will no longer talk of KM; it just may be embedded in other practices and departments, with a scope broader in some respects and narrower in others than today.”*

### 8.7.2 Performance management

Performance management is a dominating field of interest for the author. The steepest learning curve however was not methodologies or concepts but the unforeseen



resistance to change: Initially everyone in the case study organisation wanted to have a scorecard. Before even knowing what a scorecard was, everyone wanted one. However, when it came closer to finishing the development project it turned out that fewer and fewer people were willing to support the project and finally it was stopped a month before actual implementation was due to start.

As a result some of the more “threatening” indicators were overhauled and a very soft approach chosen, a roll out of a few indicators at a time, with fewer indicators that could possibly show real performance. The initial plan to make the scorecard available within the entire KM function or even within the entire organisation to communicate strategy, successes and state of KM was called off and the scorecard limited to the management team. What had happened? The initial scorecard project had a very thorough approach and was inclusive of a high number of stakeholders during the consulting process and had suggested very detailed measures that might have been too detailed to some people, e.g. the notion that everyone would need to record time and therefore add to transparency did – understandably – create emotional reactions.

But even if the project did not deliver an immediate outcome in the form of an intranet site to check indicators or an application to open from the desktop to get all necessary figures, it certainly made everyone involved revisit the fundamentals, the right questions. This triggered a learning process for everyone involved, the most intense of course for junior staff like the author, leading to a review of strategic vision in the light of day-to-day knowledge management:

- Why are we managing knowledge?
- What are the business imperatives?
- How can we make a difference in client service?
- How can know we are doing the right thing?
- What is our raison d'être within the business?
- How can we excel in the areas we measure?

Another benefit during the course of these workshops was a very beneficial surge in communication between management and staff, which led to a more consultative approach in many situations. It remains to be seen if the full scale deployment of the performance management framework will result in a generally more consultative management style as identified in a case study by Bititci et al (2004).

Even critics of the scorecard approach consider this a benefit; the discussion of and reflection on strategy in the course of trying to agree on certain logical connections (Weber and Schäffer, 1999).

Discussing cause and effect during the Knowledge Scorecard project and reaching agreement on them and now revisiting these results to analyse validity was a very challenging and interesting experience for the author. A properly constructed success map should tell the story of the strategy and should make the relationships



(hypotheses) among objectives (and measures) in the perspectives explicit so that they can be managed and validated.

The author believes this success map now provides not a complete picture, but as close as possible with the means that were available. Towards the end of this research the scorecard project within the organisation was finally put live.

8.7.3 A product of cooperation

One more personal lesson learned by the author is that it was very beneficial to have this research based on constant feedback loops between research and business.

Figure 18 shows the timeline of the Knowledge Scorecard project with a focus on it being one result of research as well as application in the business. The benefits of this were numerous, reaching from the availability of data, to the possibility to immediately test theories, to always being connected to the latest research and experts in the fields of knowledge management and performance management.

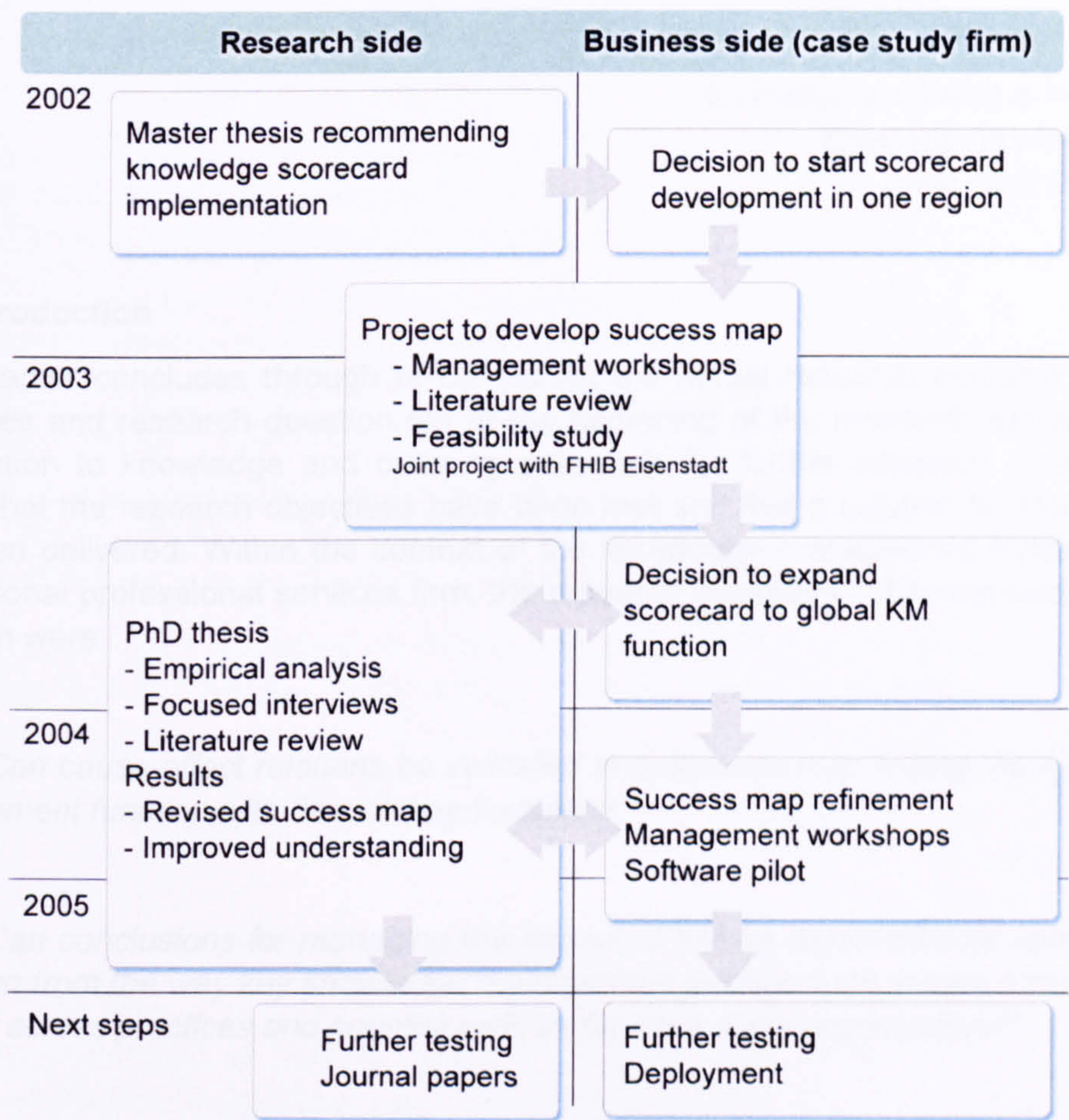
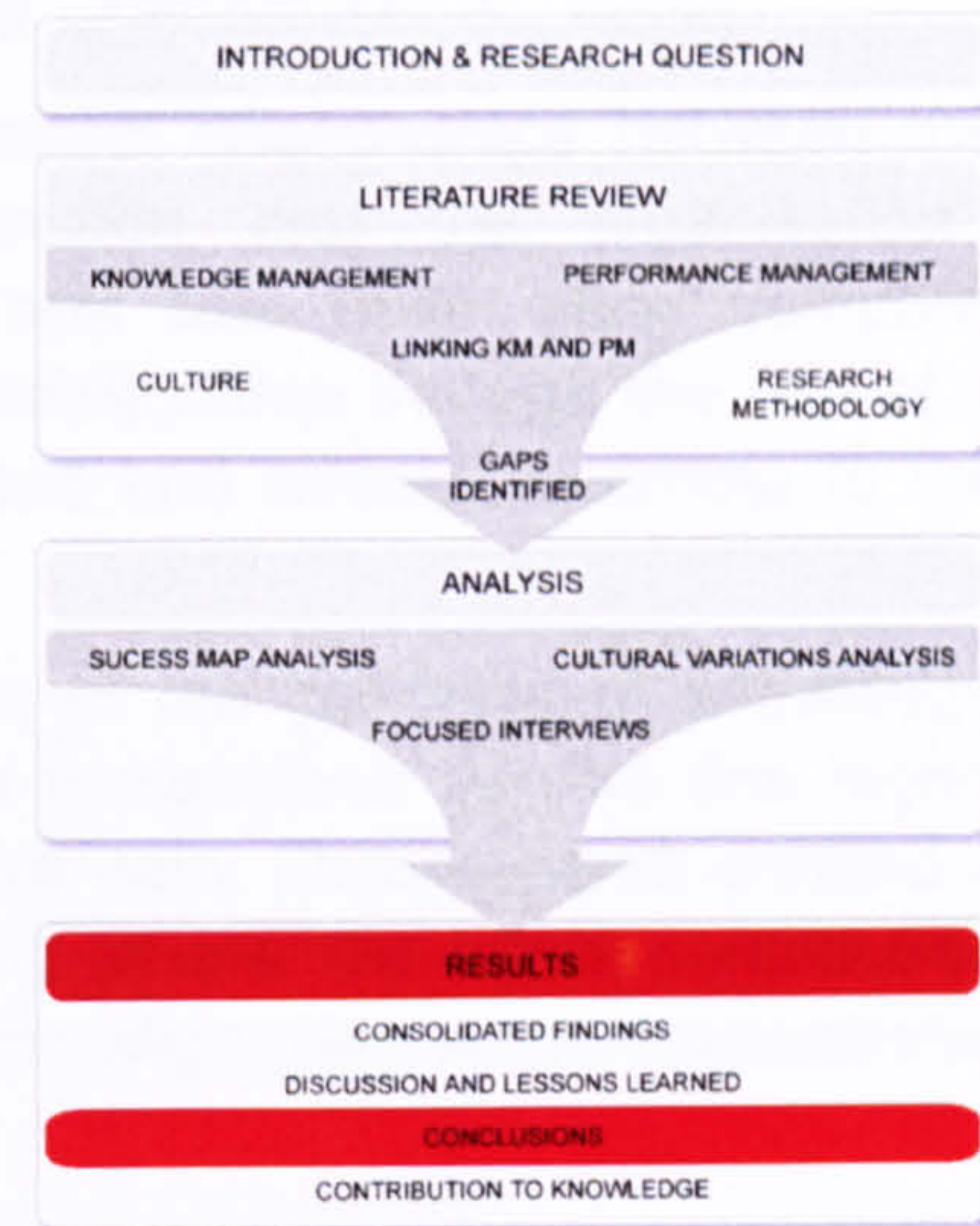


Figure 18: Timeline of Knowledge Scorecard project



## 9 Conclusions



Knowledge is not what is memorised.  
 Knowledge is what benefits.  
*Imam Shafi (767 – 820)*

### 9.1 Introduction

This chapter concludes through re-comparing the actual research outcome with the objectives and research question set at the beginning of the research, explaining the contribution to knowledge and outlining potentials for further research. The chapter shows that the research objectives have been met and that a solution for the problem has been delivered. Within the context of the knowledge management function of an international professional services firm, the research questions set at the outset of this research were:

**RQ1:** *"Can cause-effect relations be validated in a success map linking the knowledge management function with financial performance?"*

**RQ2:** *"Can conclusions for managing the impact of KM on organisational performance be drawn from the way key knowledge management performance drivers form patterns or differ across practices and countries within the case study organisation?"*

The detail of how these questions were answered was discussed at length in chapter 7.2 and is now summarised as the contribution to knowledge made by this thesis.



## 9.2 Contribution to knowledge

Prior to this thesis, there has been little empirical support for the role of knowledge management in firms (Darroch, 2005) and the relationship between knowledge management and organisational performance (Del-Rey-Chamorro et al., 2002).

The analyses showed that there are direct and indirect relationships between the services provided by the organisation's KM function and the organisation's performance. It did so by investigating in depth how one case study company measures the performance of KM activities and the relationship through the use of a Balanced Scorecard. This scorecard model was tested and refined according to the findings of this research.

For the first time, the combined practical application of the concepts of knowledge management and performance management within a professional service firm highly dependent on knowledge have been analysed with live data. This research created a model for measuring the impact of KM and showing where the value contribution comes from, thereby enabling the KM function to better align itself with organisational goals.

This provided support for RQ1, showing that knowledge management can be linked to organisational performance and also detailing the composition of these drivers, thereby identifying the processes within KM that add value to the business.

Culture was identified as an enabler as well as a result of knowledge management. It is essential to take account of cultural variations when interpreting the results of KM across different practice groups in different regions and countries.

Another result of this research is an analysis of how lawyers can be encouraged to share their knowledge with others and what differences need to be taken into account depending on their job role and level of seniority, findings that previously only existed on a theoretical level without empirical evidence.

This provided support for RQ2 and showed that conclusion for managing the impact of KM on organisational performance can be drawn from analysis of performance predictors and motivations to share knowledge across different layers of culture.

This research also provided a framework to evaluate performance metrics for knowledge management by triangulation. First relationships within the success map were analysed using regression and correlation, multiple data collection and analysis methods. The results were compiled across different cultures and then qualitative semi-structured interviews were conducted within the case study company and with external experts.

## 9.3 Limitations

Even though the data for the case study was very rich with excellent access to internal sources of information such as HR or financial data, this does not change the fact that this research has certain limitations:



One organisation was studied and this organisation – according to the interviews conducted – is a recognised leader in the application of knowledge management and is therefore not representative for the entire industry of law firms. Also, Martin (2004) warns, that there will be no standard set of indicators that will be valid for all organisations and that such a hybrid approach requires managers to have a clear understanding of the strategic objectives and business processes of their organisation.

To potentially address this limitation and to increase the generalisability of the research findings, interviews outside the organisation under study were conducted and other case studies taken into account where suitable.

This research is limited to the law firm environment and law firms are one of the few sectors where the only product in terms of input as well as output is knowledge. There is no tangible product. However it is believed that the findings could apply to other professional service firms with a similar emphasis on knowledge, such as for example consultancies.

Another limitation of this research is that the author did not enter the field without prior experience or prejudice, but has been working in the KM function of a law firm environment since 2001. Where possible, this bias has been made explicit and the author has applied rigorous research methods to overcome such potential lack of objectivity.

#### 9.4 Recommendations for further research

Performance management and measurement as well as knowledge management are vast fields not yet sufficiently harvested in terms of research. Therefore numerous aspects could not be discussed in this thesis and must remain for further research:

Although **culture** was discussed – and given more space than initially planned – the topic turned out much more important than expected. Had the author known what he knows now, he would have devoted the entire thesis to cultural metrics of KM as the subjects holds the riches to write several dissertations about. To be more specific, aspects of culture that need more work are:

- The influence of social networks (Personal know-how exchange is a predictor of the success of KM in this research, but too little is known about how this exchange takes place and how it can be improved)
- This thesis mainly looked at the national / regional level of culture. Other aspects that were left out are: gender, social class, generation, ethnic and linguistic affiliation
- More research needs to be done how e.g. Hofstede's dimension model influences measures in detail and how these measures can be adjusted accordingly.

This research was limited to a certain aspect of professional service firms, global law firms. Although it is tentatively felt that the findings could apply to other “super users” of KM such as **consultancies or accounting firms**, where knowledge is a highly capitalizable asset. This should be researched in a similar way to discover whether the



motivations to share knowledge in such professional service firms are similar and if the other findings of this thesis can be applied to such an environment.

The measures presented in this research have to be continuously refined and applied to an ever changing context. A validated and verified set of measures, especially taking into account the causes and effects between the different measures, is subject to further research. Further investigations are necessary to be able to improve the set of target and benchmarking values for the knowledge asset related indicators.

## **9.5 Summary**

Both research objectives have been met and the contribution to knowledge identified, which makes this thesis the first to analytically confirm the positive impact of knowledge management on organisational performance. Limitations within this research were identified and recommendations for further research given.

## **9.6 The last word**

I appreciate the opportunity I had to do this and I do hope that my work is as exciting and useful to you, the reader as it was and is to me.



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# 11 Appendices

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Appendix A: Interview form used for semi-structured interview.....p. 199



## Appendix A Interview form

### Cause and effect and cultural implications of KM in law firms

The objective of this interview is to further research the preliminary findings of my thesis. Questions are centred around two main topics: Cause and effect as well as cultural implications. All interview results will be considered strictly confidential.

#### A. Interviewee

Name:

Letter used in thesis:

#### B. Cause and effect

B.1. Do you feel that KM adds value to the business of a law firm?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly

B.2. If you agreed with the statement, in what way does the investment in KM make an impact?

If you disagreed, please explain your reasons

	First issue mentioned
	Second issue mentioned
	Third issue mentioned

B.3. Would you agree that investment in Knowledge Management has a direct relationship to fee income and firm profitability?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly

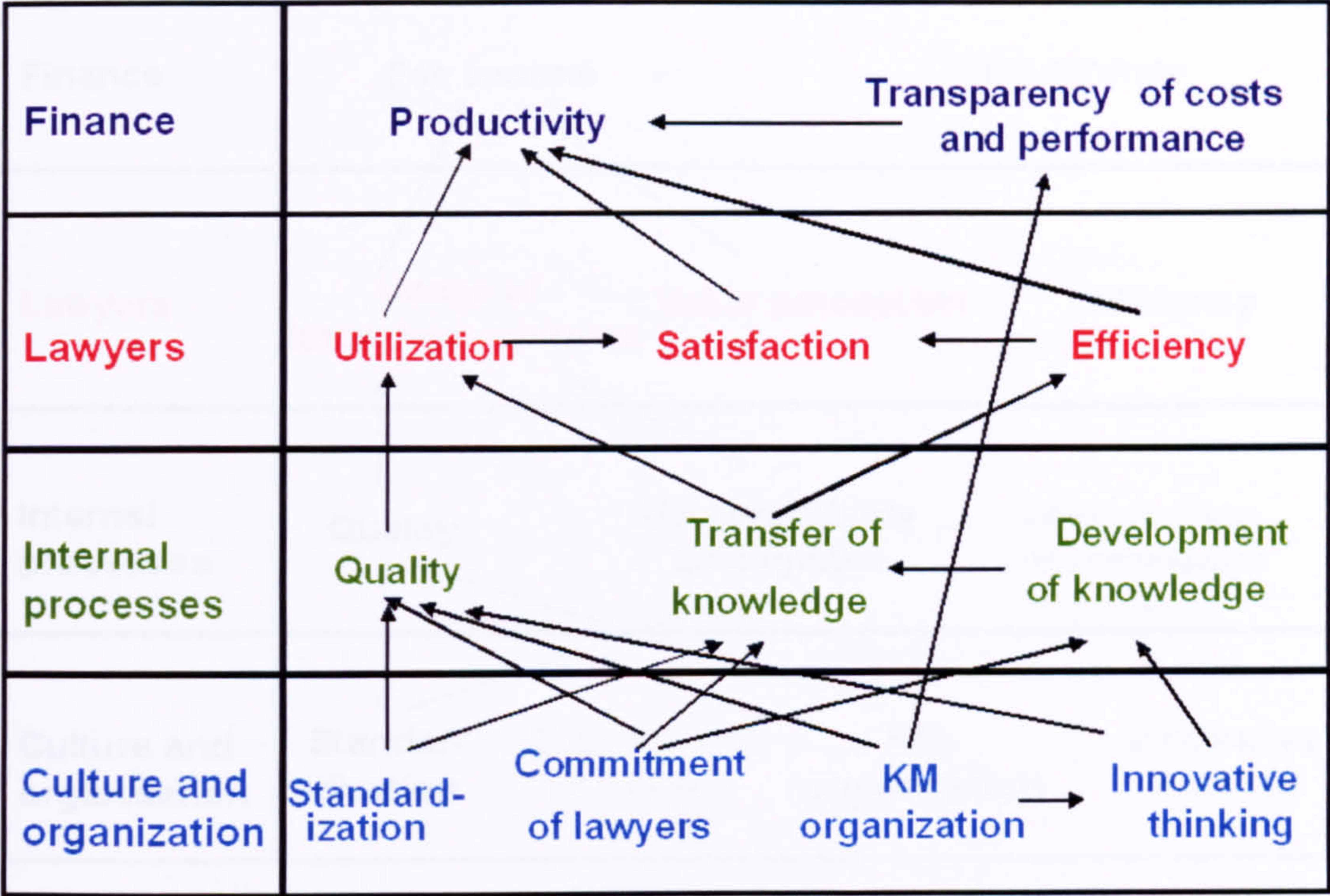
B.4. Do you have any comments on the following statements: (Do they surprise you, do you agree?) –

- ☐ Investment in Knowledge Management influences a firms fee income and profitability (or improves PEP)
- ☐ The higher the fee income of a firm (or the higher PEP of a firm), there is a higher probability that investment in KM is valued by a fee earner
- ☐ It is important to think about firm culture before thinking about technology
- ☐ When developing Technology for lawyers, the human computer interface should not be neglected
- ☐ It is more successful to position KM staff locally and within the practice group rather than away from it

B.5. On the next two pages, you see two success maps which I would like to discuss with you:

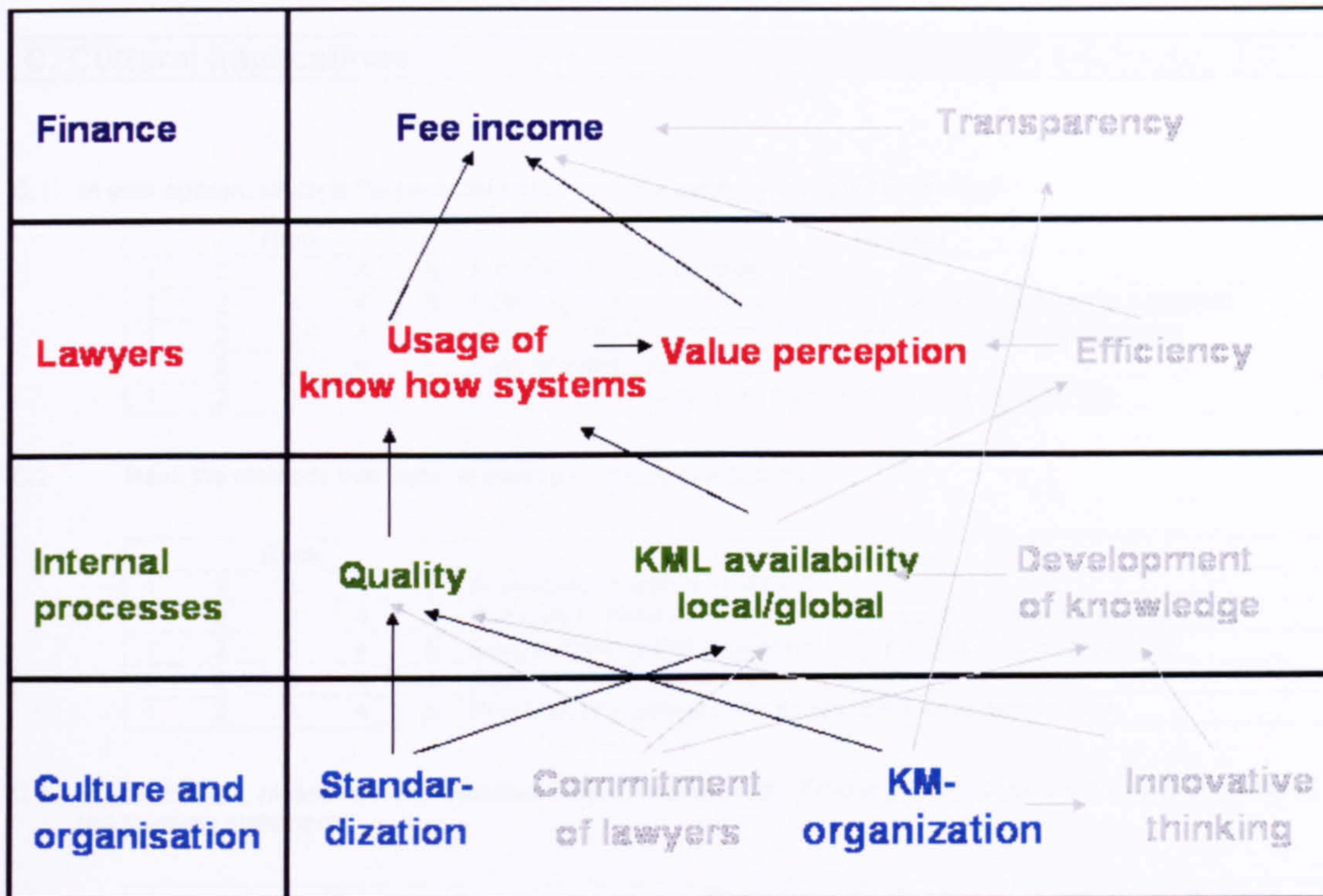
Do the causalities make sense ?	
Any additions / deletions ?	
Can you guess indicators behind them ?	





Success map 1





Success map 2



C. Cultural implications

C.1. In your opinion, which is the best method to motivate partners to share knowledge:

Rank					Method
1	2	3	4	5	A one-time incentive or reward
1	2	3	4	5	Authority or direction from partner/immediate supervisor to contribute
1	2	3	4	5	Contributions to KM recognised as part of the appraisal process
1	2	3	4	5	Peer recognition and respect
1	2	3	4	5	Provision of a charge code to record the time used for KM

C.2. Rank the methods that foster knowledge sharing by efficiency

Rank					Method
1	2	3	4	5	A one-time incentive or reward
1	2	3	4	5	Authority or direction from partner/immediate supervisor to contribute
1	2	3	4	5	Contributions to KM recognised as part of the appraisal process
1	2	3	4	5	Peer recognition and respect
1	2	3	4	5	Provision of a charge code to record the time used for KM

C.3. In your opinion, please rank the countries United Kingdom (UK), France (F) and Germany (D) by applicability of the following statements:

Statement	Strongest applicability	Second strongest applicability	Weakest applicability
Direction by a partner is an efficient means of fostering knowledge sharing within a law firm			
Knowledge contribution recognised as part of the appraisal process is important			
Peer recognition and respect as a reward for knowledge sharing is important			

Thank you very much for your support!